



REPORT

ON

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1ST SEPTEMBER, 1854, TO 1ST SEPTEMBER, 1855.

BY

THE RIGHT HON. MAZIERE BRADY,
VICE-CHANCELLOR OF THE UNIVERSITY, AND LORD HIGH CHANCELLOR OF IRELAND.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:

PRINTED BY ALEX. THOM AND SONS, 87, ABBEY-STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

1855.

REPORT.

TO HIS EXCELLENCY THE EARL OF CARLISLE, LORD LIEUTENANT
GENERAL, AND GENERAL GOVERNOR OF IRELAND.

13th September, 1855.

MAY IT PLEASE YOUR EXCELLENCY,

In the absence of the Earl of Clarendon, K.G., G.C.B., Chancellor of the Queen's University in Ireland, it becomes my duty, as Vice-Chancellor, in compliance with the provisions of Her Majesty's Charter, to furnish to your Excellency the report of its condition and progress since September 1st, 1854.

In accordance with the Ordinance of the 21st June, 1854, and in the order therein prescribed (as printed in the Eighth Appendix of last year's Report), *Appendix I.* the Examinations for Degrees and Diplomas were holden between the 19th of September and 4th October, 1854; they were principally conducted by printed papers, of which copies are herewith annexed.

At the close of the examination, the several Candidates named in the accompanying lists were duly passed by the Examiners, for the Degrees, Diplomas, and Honors, attached to their respective names, all of which were accordingly conferred at a public meeting of the University, in St. Patrick's Hall, on the 11th of October, in that year. *Appendix II.*

An account of the proceedings on that occasion will be found appended to *Appendix III.* this Report.

Fourteen, among the entire list, of the Candidates who presented themselves for Examination, were found by the Examiners to be not sufficiently qualified, and were consequently rejected.

The Senate having considered that Art Instruction may be beneficially introduced into the course of education in the Queen's Colleges, caused an expression of their views on this subject to be intimated to the Committee of the Board of Trade, in the hope that the Department of Science and Art, under that Committee, will be enabled to give effect to these views.

It having been found desirable to amend the Ordinance regulating the studies of Students in Arts, so as to allow of their extending their period of study over a greater number of years than three, an Ordinance, of which a copy is annexed, *Appendix IV.* was framed accordingly.

- Appendix V. It was also deemed advisable to amend the Ordinance regulating the Engineering studies, so as to give to the Students the benefit of attendance on lectures in the Queen's Colleges, before their actual Matriculation therein. These Ordinances have received the sanction of your Excellency, in accordance with the provisions of our Charter.
- Appendix VI. The Ordinance, regulating the Examinations for the current year, is appended to this Report.
- Appendix VII. Two Draft Bills for Medical Reform having been submitted to the Senate for its opinion, by desire, and for the information of Sir George Grey, Her Majesty's Secretary of State for the Home Department, I annex a copy of the Report of the Senate thereon, as embodying the opinion of that body on this very important subject.
- The following papers connected with the proceedings of the University, are also annexed for your Excellency's information.
- Appendix VIII. A return of Medical Schools which have reported to the Senate.
- Appendix IX. Estimate for the current year.
- Appendix X. Cash account for year ended 20th June, 1854.
- Appendix XI. List of Examiners elected 16th July, 1854.
- Appendix XII. Return of the number of Degrees and Diplomas conferred by the Senate in each year, since the erection of the University, on Students of the Queen's Colleges of Belfast, Cork, and Galway.
- Appendix XIII. Return of the several meetings of the Senate since last Report.

I have the honour to be

Your Excellency's

Obedient and faithful Servant,

MAZIERE BRADY, C.,

Vice-Chancellor.

APPENDIX.

1.—EXAMINATION FOR THE DEGREE OF M.D.

19th September, 1854, 9 o'clock, a.m.

THEORY AND PRACTICE OF MEDICINE.—*Examiner, Professor Banks.*

1. Enumerate the orders of cutaneous diseases, according to the classification of Bateman and Willan, and the leading characters which distinguish each order.
2. Describe the condition of a patient labouring under small-pox, which would lead you to form an unfavourable prognosis.
3. What are the diseases, general and local, which are found in complicated pericarditis, and the circumstances which should guide the physician in the selection of remedial measures.
4. State the conditions under which Hamaturia occurs, and the treatment.

19th September, 1854, 2 o'clock, p.m.

SURGERY.—*Examiner, James S. Hughes, M.D., F.R.C.S.I.*

1. Describe the stages, symptoms, and pathology of "the chronic scrofulous disease of the hip joint."
2. Enumerate the affections which might possibly be mistaken for the scrofulous disease of the hip.
3. Point out the treatment that should be adopted in the different stages of the scrofulous disease of the hip joint.
4. Describe the nature of "Pott's luxation," and give in detail the treatment that you would pursue in that injury.
5. Recount the various modes of treatment which have been recommended in ununited fractures; name the authorities by whom each of them have been proposed, and point out those on which you would place the greatest reliance.

20th September, 1854, 3 o'clock, p.m.

MATERIA MEDICA AND PHARMACY.—*Examiner, Dr. Aquilla Smith.*

1. Define the terms *Materia Medica* and *Pharmacy*, and explain what is meant by a "Galenic preparation" in Pharmacy.
2. What is the difference in weight between an ounce, wine measure, and an ounce, imperial measure?
3. State the composition of the aromatic powder, and the aromatic confection of the Dublin Pharmacopœia, and the reason for adding honey along with syrup, in the latter preparation.
4. How would you detect the presence of corrosive sublimate in a sample of calomel?
5. Describe the process for obtaining elaterium, its characteristics, therapeutic action, dose, and mode of administration.
6. What is the proportion of aloes in each of the following preparations of the Dublin Pharmacopœia, viz.:—compound aloetic pill, compound colocynth pill, pill of aloes with myrrh, compound rhubarb pill, and compound decoction of aloes.
7. Enumerate the diuretics most commonly used, and state their respective preparations and doses.
8. Describe the process for preparing the *liquor arsenicalis* of the Dublin Pharmacopœia; state its strength, dose, and the precautions necessary to be observed during its use.
9. Give the names of the substances numbered 1, 2, 3, 4, 5, 6, according to the *Materia Medica* of the Dublin Pharmacopœia.

PRESCRIPTIONS:

(The names of the drugs and quantities are to be written in Latin, without abbreviation.)

10. Prescribe a purgative draught containing confection of scammony as the chief ingredient.
11. Prescribe two eight-ounce mixtures, one containing citric acid, the other bi-carbonate of soda, with the usual flavouring ingredients, and give directions for use.
12. Write a translation of the following prescriptions:—
R. Cacusmum cytiæ scopari, manipulos duos.
Aquæ fluvitilis ferventis, unciæ octodecim cum semisse.
Digere per osquibram, in calore fere ferrido, absque ebullitione tamen, deinde cola per stupam ad unciâ decem.
Capiat segrâ sesunciam de die in diem per septimanam.

MEDICAL JURISPRUDENCE.—*Examiner, Dr. Aquilla Smith.*

1. How can a burn inflicted during life be distinguished from one produced after death.
2. Describe the characteristics which distinguish the skeleton of the female from that of the male.
3. A woman recently married becomes pregnant; emptions are excited that it is not her first pregnancy: how is the question to be decided?
4. Describe the alterations which take place in the female breast after conception, and state the value of such changes as evidence of the existence of pregnancy.
5. What are the proofs of a child having attained sufficient maturity, to enable it to maintain an independent existence.
6. With what indigenous poisonous plant is Hemlock likely to be confounded, and how would you distinguish it?
7. Explain the difference between the fire-damp and the choke-damp, which are frequently generated in coal mines, and state the danger which arises from them.
8. Enumerate the symptoms of poisoning by white lead, state the treatment in such cases, and the means to be adopted in order to guard against the deleterious action of white lead.
9. What length of time is required for death to take place from submersion, and state the treatment to be adopted in cases of drowning.

21st September, 1854, 9 o'clock, a.m.

HUMAN ANATOMY.—*Examiner, Croker King, M.D.*

1. Describe the motions of the lower jaw, and state by the action of which of the muscles each motion which you mention can be accomplished.
2. Describe the origin and insertion of the serratus magnus muscle, and the various uses to which it can be applied.
3. Contrast the root of the right with that of the left lung, as to its boundaries, and the relative position of the parts entering into its formation.
4. Contrast the right with the left carotid artery as to dimensions and relations.
5. Describe the form, position, and structure of the femoral or crural ring, and the anatomical circumstances which favour, or, on the contrary, oppose the exit of a hernial tumor through this aperture.
6. Describe the form and position of the ileo-colic and ileo-caecal valves, and the arrangement of the structures of which they are composed.
7. Enumerate the openings of the diaphragm; state their relative position, and mention the parts which pass through each of the apertures.
8. Describe the form, size, and boundaries of the triangular space through which the bladder may be tapped from the rectum, and state how far it is situated from the orifice of the urethra.
9. Describe the corpus dentatum or rheumoides, and state the best mode of proceeding in order to exhibit it.
10. What anatomical circumstances favour, and which oppose, dislocation of the shoulder joint?
11. Describe the relation of the following parts to each other at the head of the elbow, the tendon of the biceps, and its acromiolar fascia, arteries, veins, and nerves.
12. Describe the vessels and nerves of the stomach, the source of its arterial supply, and the mode in which its veins terminate.

HUMAN ANATOMY.—*Examiner, Croker King, M.D.*

1. Describe the nervous and the vascular relations of the parotid gland.
2. Describe accurately the form and structure of the amygdala or tonsil, also the muscular boundaries of the recess in which it is lodged, and its relation to blood vessels.
3. Describe the form of the rima glottidis in a state of repose. State what alteration of figure it may undergo when subjected to muscular action, assigning to each muscle its peculiar action.
4. Describe the relative position of the arterial and auriculo-ventricular orifices at the base of the heart.
5. The relations of the ascending portion of the arch of the aorta.
6. Describe the epididymis; also the nature of the vas deferens, its course and relations.
7. Describe the form, and also the direction and connexions of the processes a cerebello ad testes.
8. Has any nervous structure been described in connexion with the anterior communicating artery of the brain? If so, who described it, and what is its supposed nature?
9. State what are the exact relations with respect to nervous matter of the corpora olivaria. Also describe the appearances presented by sections of these bodies, and state what physiological use has been assigned to them.
10. Describe the course and mode of termination of the thoracic duct.
11. Describe the cornea, its form, and the structures of which it is composed.
12. Describe the motions which the eye enjoys, and state by the action of which of the muscles each motion which you describe is effected.

21st September, 1854, 2 o'clock, p.m.

PHYSIOLOGY.—*Examiner, Croker King, M.D.*

1. By what means is man enabled to preserve, under certain limitations, an uniform temperature, though exposed to excessive heat or cold?
2. Describe the manner in which the elements of the urine are separated from the blood. What is the average specific gravity of healthy urine? Is the specific gravity of this secretion affected by external influences?
3. Describe the structure of the human skin; also the arrangement of the sudoriferous glands, and sebaceous follicles, and the nature of their secretions.
4. Describe the microscopical features of the different forms of nervous tissue, and assign to each form its proper function.
5. What conditions are necessary for the performance of animal respiration? State the manner in which the oxygenation of the blood is accomplished in insects, fish, reptiles, birds, and mammals.
6. Describe the changes which take place during the coagulation of the blood, and the circumstances which accelerate or retard the process; and also the causes said to produce the condition called huffy coat.
7. Describe the sounds of the heart, their rhythm, and their supposed origin.
8. What portions of the nervous centres of vertebrata are analogous to the pedal, stomato-gastric, and respiratory ganglia of invertebrata?
9. What relation in colour exists between luminous images and the resulting ocular spectra?
10. Have you, in the highest animals, any trace of the diffused agency on which the circulation so much depends in the lower tribes?
11. State the effects frequently produced on man by a too abundant supply of food?
12. What is the best description of vegetable food for a diabetic patient? and why?

PHYSIOLOGY.—*Examiner, Croker King, M.D.*

1. To what circumstance does the solubility of albumen appear to be due?
2. What do you understand by the term *cassia*? whence is it obtained, and in what respects does it differ from albumen?
3. Define the term *cell*, as used in physiological language, and state in general terms the varied offices which have been assigned to cells.
4. State the distinguishing features of the red corpuscles of the blood in mammals, birds, reptiles, and fishes. If any exceptions to the general rule exist, state them.
5. Describe the appearance of adipose cells, as seen in the field of a microscope; and also state if any provision exists to prevent the transudation of their oily contents.
6. State the various uses to which fat is applied in the economy of man.
7. Can you mention any remarkable instance of the influence of food upon animal development?
8. How can pepsine be obtained? and what is its supposed action in the digestive process?
9. In what part of the alimentary canal is sugar generated from starch? What interference with this development in the stomach?
10. What fact has been adduced to prove that the secretion of bile takes place, though not required for the purpose of digestion?
11. State the average number of respiratory movements which take place during a minute: how much air is expelled by an ordinary act of expiration; and how much still remains in the lungs.
12. In what situations has the sense of taste been found to reside, and what nerves supply these parts?

22nd September, 1854, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, Edward Reynolds, Ph.D.*

1. Define the terms *specific heat* and *latent heat*.
2. State the four principal laws of combining proportion.
3. What relations subsist between the equivalent weights, and the volumes of bodies in the gaseous state?
4. What laws do the volumes of gases observe with reference to pressure and temperature?
5. Explain the use and principle of action of Daniell's hygrometer.
6. Give an account of the theory of combustion, describing also the structure of flame and proximate cause of luminosity.
7. Whence is the element sulphur obtained, in what different commercial forms is it met with, and how are these prepared from the crude material? What are the principal chemical and physical properties of the element, and what the composition of the more important compounds into which it enters as a constituent?
8. What different classes of compounds does oxygen form with other elements? Give an example of each class.
9. Show, by the use of symbols, the process for obtaining gaseous ammonia, and state the constitution of the ordinary ammoniacal salts.

10. In what relative quantities by weight should the ingredients be employed for preparing NO , HO from K_2O , NO —

N.B.—Equiv. of N = 14
" " O = 8
" " S = 16
" " H = 1
" " K = 39

11. To what ingredients is the property of hardness in spring water attributable, and by what agents may it in great part be removed?
12. Triple phosphate is a term applied to a salt occurring in certain secretions. What is the chemical composition of the salt? How may it be recognised, and what is the effect of a red heat upon it?
13. How are the compounds of antimony distinguished from those of arsenic in analysis?
14. What are the respective compositions of the two oxides of mercury, and how may their salts be distinguished from each other?
15. What is the composition of litharge, and to what pharmaceutical uses is it applied?

22nd September, 1854, 3 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, George F. Shaw, F.T.C.D.*

1. Explain the action of the common syphon, and deduce hence an explanation of the various kinds of intermitting springs.
2. Describe the wet-bull hygrometer, and explain its thermologic principle.
3. How much does the sun's midsummer altitude exceed, at any given place, his mid-winter's.
4. At what rate should information be conveyed, in order that a fact which occurs at Greenwich at noon should be made known in Dublin at $12^h 40^m$.

Note.—Assume long. of Dublin to be $6^h 15^m$ west, and its distance along the telegraph to be 200 miles.

5. Describe the phenomena called endosmosis, and state the principal laws which have been ascertained respecting it.
6. Two forces, unknown in magnitude, meet at an angle, and compound a resultant of 27 lbs., which makes, with the two components, the angles 20° and 37° respectively. Find the magnitude of the components.

Note.—Sine $20^\circ = .342$
Sine $37^\circ = .602$

7. How many feet will a heavy body descend in the third second of its fall, the effect of the air's resistance being neglected?
8. Describe the medico-galvanic machine, accurately stating the principles it involves.
9. Explain why the moon appears large to a short-sighted person.

23rd September, 1854, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Dickie.*

1. Describe peculiarities in the relations of the dental tissues in mammalia, having reference to peculiarities of habit. Illustrate by examples.
2. Describe the general characters of the skull in the genera *Felis*, *Dolphina*, and *Lepus* respectively.
3. Refer the Marsupialia and Monotremata to their place in the animal kingdom; state the general characters of each, and give the derivations of the terms.
4. Define the class Insecta, state the orders into which it is usually divided, and give the derivations of the names of orders.
5. Define the class Echinodermata; state the orders adopted by Professor E. Forbes, in reference to our native species, and mention an example of each order.

BOTANY.

1. Describe the general structure of leaves.
2. Describe, and illustrate by plans, the relative position of the parts of symmetrical flowers in which the numbers two, three, and five respectively prevail.
3. Describe the true nature of the fruit in *Ficus*, *Pomum*, *Fragaria*, and *Rubus*.
4. Describe the development and structure of the pollen.
5. State the organic constituents of plants and their sources.
6. Refer the following to their respective class, sub-class, and order: *Agaricus*, *Lycopodium*, *Pinus*, *Lilium*, and *Ranunculus*.

23rd September, 1854, 2 o'clock, p.m.

MIDWIFERY.—*Examiner, Dr. Dwyer.*

1. Give a definition of tedious labour; state the most frequently observed causes thereof.
2. Whether is an unduly protracted first or second stage attended with most danger to the child, and why?
3. Are there any circumstances, as regards the fetus more especially, which may prove a source of delay?
4. State the treatment best adapted to obviate or remove those causes.
5. What are the symptoms, which being present, would justify your having recourse to

instrumental delivery; and what points are to be taken into consideration in your selection of the instruments to be used?

6. Describe a case in which the exhibition of *secale cornutum* would be likely to prove hemoidal; as also the most effective mode of administering it.

7. What injurious consequences, as regards mother or child, have been observed to ensue?

8. What unfavourable conditions of the uterus have been met with, as following upon protracted labour, and how are they to be met and relieved?

9. Under what circumstances, generally speaking, does rupture of the uterus occur?

10. Are there any points in the previous history, or symptoms arising in the course of the labour, that would lead you to apprehend such an event; and what would be your mode of proceeding on such an apprehension?

11. Describe a case of actual rupture, with the treatment immediately necessary.

12. What are the consequences to be dreaded, and what the after treatment?

DISEASES OF WOMEN AND CHILDREN.

1. Describe a case of irritable uterus; with what morbid condition of this organ is it most likely to be confounded? Give the diagnostic marks and the treatment.

2. Mention the principal malignant diseases of the uterus, and the manner by which they induce a fatal termination?

3. What are the symptoms which, being present, would lead you to suspect the existence of an imperforate hymen? State the points of similarity between this condition and concealed pregnancy. Give the mode of diagnosis, as also the manner of relief.

4. Describe the foetal circulation.

5. What are the changes that occur in this system consequent upon birth, and why?

6. Is there any morbid condition met with, the necessary result of this change not having been complete? Describe it.

7. Detail the process of dentition as most ordinarily observed.

8. What morbid affections occasionally accompany, or seem to be a result of sympathy, with this process? and state the treatment proper for each.

9. Describe what you would consider to be the course of a case of successful vaccination, stating what you deem to be the most conclusive evidence of success.

HONOR EXAMINATION, M.D.

27th September, 1834, 9 o'clock, a.m.

NATURAL PHILOSOPHY.—*Examiner, George F. Shaw, F.T.C.D.*

1. Describe any of the more accurate processes for determining the rate of expansion of a given gas due to an increase of temperature, either the tension or the volume of the gas being kept nearly constant.

2. Dr. Laplace's formula for the tension of a vapour is—

$$f' = f - \frac{d}{33} \times \frac{p}{32}$$

Explain precisely the symbols used in this formula, as well as the instruments which supply the numerical data f' , d , and p .

3. (a) Define the thermologic ideas—quantity of heat, capacity for heat, and temperature; and show that they are, respectively, analogous to the dynamical ideas of motive force, mass, and velocity.

(b) Illustrate in like manner from dynamics the idea of specific heat.

4. How are the force and the velocity of endosmoses respectively measured; and what law did Dutochet find to hold good for both.

5. Mention the instruments that are usually employed to measure both statical and dynamical electricity, and state briefly the principles involved in each.

6. What are the principal mutual actions of electric currents?

7. Describe the component glasses of a good microscope, and the action of each glass.

27th September, 1834, 2 o'clock, p.m.

THEORY AND PRACTICE OF MEDICINE.—*Examiner, Professor Banks.*

1. Contrast *eclampsia asturina* with ordinary epilepsy.

2. Is the susceptibility for contagious and epidemic diseases augmented or diminished in epileptic patients?

3. To what form of mental alienation does epilepsy most frequently tend?

4. What are the circumstances which should guide us in forming a prognosis in cases of insanity?

5. When jaundice proves fatal by cerebral symptoms, what is the condition of the liver which is generally present, and what is its microscopic character?

6. What are the signs of pericarditis and the circumstances under which it has been found to exist?

7. To what form of cancerous degeneration is the kidney most prone? What are its symptoms in the advanced stage, and with what diseases may it be confounded?
8. What are the general characters of the urine in inflammatory affections, and what influence has the abstraction of blood on its composition?
9. What are the therapeutical indications in the uric acid diathesis?
10. What treatment would you have recourse to for the removal of dropsical effusions consequent on renal disease?

26th September, 1854, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, Edmund Ronalds, Ph.D.*

1. Show by means of symbols, the reaction which occurs when chlorine gas is passed into a solution of ammonia.
2. State the composition of phosphate of soda, and of the precipitates which it forms with nitrate of silver and chloride of barium; also the modes of distinguishing these from the arsenite and sulphate of the respective bases.
3. What is the composition of Rochelle or Seignette salt, and how is it obtained?
4. In converting potassulphate of iron into neutral persulphate why is the addition of sulphuric acid necessary?
5. What bases are capable of replacing the alumina and potash, respectively, in alum, without altering the crystalline form of the salt?
6. How would you test a mineral or spring water for the following substances:—1, carbonic acid; 2, sulphuric acid; 3, chloride; 4, nitric acid; 5, lime; 6, soda; 7, iron; 8, magnesia?
7. What is the composition of the precipitate produced by carbonate of ammonia in a solution of persulphate of iron? and when the precipitate is employed as an antidote in cases of poisoning, how is its action explained?
8. What formula will represent the atomic constitution of a salt containing, in 100 parts:—

K ₂ O,	.	.	34.65
SO ₃ ,	.	.	58.74
HO,	.	.	6.61

100.00

N.B.—Equivalent of K₂ = 39

" " S = 16

" " O = 8

" " H = 1

9. In what medicinal preparations is the suboxide of mercury believed to be the active principle, and what precautions must be observed in order to obtain this oxide free from the higher oxide?
10. How would you detect the presence of hydrocyanic acid in an organic mixture?
11. What is the constitution of bitter almond oil, and what product results from its oxidation?
12. How much dry acetic acid should be produced from the oxidation of 1 lb. of alcohol, of 0.815 sp. gr. (92 per cent.)—

N.B.—Anhydrous Alcohol = C₂ H₅ O₂

Equiv. of Carbon = 6

" " Hydrogen = 1

" " Oxygen = 8

13. What is the usual process for obtaining the essential oils, and how are they distinguished from fat oils?
14. What element is common to all the organic alkaloïds, and in what respect do they resemble ammonia?
15. How may the presence of sulphur be demonstrated in the albuminous class of bodies?
16. How has the fact been accounted for, that very nearly the same quantity of oxygen is absorbed by the blood when respiration proceeds at the level of the sea, or in elevated situations, although an equal bulk of air in the latter position contains a much smaller proportion of that element?

28th September, 1854, 2 o'clock, p.m.

SURGERY.—*Examiner, James S. Hughes, M.D., F.R.C.S.I.*

1. Describe the symptoms of caries of the vertebrae, as affecting the cervical, dorsal, and lumbar regions.
2. Point out the affections most likely to be mistaken for caries of the spine?
3. Give the pathology of caries of the spine, and name the authorities who have pointed out its different modes of origin.
4. State the treatment that you would adopt in caries of the spine.
5. Enumerate the diseases to which the prostate gland is liable, and lay down the treatment that you would have recourse to in a case of complete retention of urine, the result of the senile enlargement of the prostate gland.
6. Point out the accidents and diseases which would induce you to recommend amputation of the thigh in its lower third, and go in detail through the different steps of that operation, both by the circular and double flap methods.

29th September, 1854, 9 o'clock, a.m.

BOTANY.—*Examiner, Dr. Dickie.*

1. Describe the true nature of the parts called connective, style, stigma, axillus, placenta, and dissepiment.
2. Give a summary of the opinions entertained regarding the physiology of fecundation.
3. Name the plants which yield ammoniacum, chamomile, belladonna, capsicum, stramonium. State and give the characters of the class, sub-class, and natural orders to which they respectively belong.
4. Name the dicotyledonous natural orders which have the following general characters, and give examples of medicinal plants belonging to each:—1. Leaves, alternate, exstipulate; sepals 4, deciduous; stamens, tetradynamous; fruit, a silique or siliqua; seed, exalbuminous. 2. Leaves alternate, usually compound, stipulate, calyx 5-divided; odd segment inferior. Petals, usually 5; corolla, regular or irregular. Stamens, definite or indefinite, distinct or united; style and stigma simple. Fruit, a legume or drupe. Seeds, with or without albumen, cotyledons large. 3. Leaves alternate often geminate. Inflorescence cymose, extra-axillary, aestivation more or less imbricate, never valvate. Lobes of corolla somewhat unequal; stamens five, one or rarely three sterile; dehiscence of anthers longitudinal. 4. Leaves opposite, whorled or alternate; calyx of five or four pieces; corolla irregular, imbricate in aestivation; stamens two, or four didynamous, rarely five; ovary, two celled, one anterior, the other posterior; seeds, albuminous, straight or slightly curved embryo.

ZOOLOGY.

1. Why are certain animals called Artiodactyla and Perissodactyla? Give the derivations of the names, state the homologies of the parts to which the terms refer. Mention also peculiarities in the alimentary canal, and give examples of genera and species belonging to each.
2. Give a general description of the osteology and dentition of the Ophidia.
3. Refer the *Hirudo Medicinalis* to its place in the system of classification. Describe those points in its organization and habits on which its value as a remedial agent depends.

29th September, 1854, 2 o'clock, p.m.

MIDWIFERY, &c.—*Examiner, Dr. Dwyer.*

1. What injurious consequences may immediately or remotely result to the infant in delivery by forceps? State the mode of obviating such.
2. Describe the various modes recommended for managing a case of foetal presentation, stating the object immediately in view, and specially note that from which you would expect to derive most success, giving the reasons therefor.
3. What are the different sites of extra-uterine fixation, and give the terminations thereof.
4. What is the earliest period of pregnancy at which it is admissible to pass the hand into the uterus to effect delivery? and state why it is admissible at this period.
5. State the different modes suggested for the removal of polypos uteri, with the reasons assigned in favour of each.
6. What do you understand by secondary hemorrhage in the parturient female? State the most usual time of its occurrence, with the causes, and the treatment adapted to its suppression.
7. What are the qualifications you deem requisite in a hired wet nurse?
8. In cases when the mother is unable to suckle her infant, and will not have a wet nurse, enumerate the substitutes for human milk, stating them in the order of value.

30th September, 1854, 9 o'clock, a.m.

GERMAN.—*Examiner Professor Frings, Ph.D.*

I.

1. How was the Anglo-Saxon converted into English?
2. From which of the German dialects sprung the English language?
3. When did the preponderance of the High-German over the Low-German become fully decided?
4. Wherein does the High-German principally differ from the Low-German?
5. What is the name of the great family from which all the European languages are derived?
6. Name the languages with which the German stands in relationship (not those which are derived from it), and state whether it be in the first, second, or third degree.
7. State the principal points in which the German idiom essentially differs from that of the other nations.
8. State the date and name of the most ancient lasting monument of the old German language.

II.

1. Who is Wolfram von Eschenbach, and when did he live?
2. Give the dates of the birth and death of Schiller, and state any particulars with regard to his life you may recollect?
3. Which was his first dramatic production, and how old was he when he wrote it?
4. Which are considered to be his masterpieces?
5. How is the late cultivation of German literature to be accounted for?

III.

1. What is the difference between the two auxiliaries *Sein* and *Werden*? Give examples in the present and past tenses.
2. In what essential does the construction of a German phrase differ from that of an English one?
3. What effect has the beginning the phrase with a conjunction upon the construction?
4. Decline: "*Eis alter Soldat—Der kleine Matrose—Jenes grosses Haus*"—both in the singular and plural.
5. Name the prepositions which govern both the dative and accusative, and state the circumstances under which they take either the one or the other case.
6. On which of the syllables does the accent regularly fall in German?

IV.

Translate into German:—

If the history of England be ever written by one who has the knowledge and the courage—and both qualities are equally requisite for the undertaking—the world would be more astonished than when reading the Roman annals by Niebuhr. Generally speaking, all the great events have been distorted, most of the important names concealed, some of the principal characters never appear, and all who figure are so misunderstood and misrepresented, that the result is a complete mystification, and the perusal of the narrative about as profitable for an Englishman as reading the adventures of Peter Wilkins.

V.

DISHAULI—Sybil.

Translate into English:—

Die alten Deutschen hatten das Gefühl mit eigenen Verstand, die man ihnen nahm. Man sieht aus der Form dieser Verstand, daß sie aus den verschiedenen Stellungen, welche gemeinsame Name bezeichnen von abweichenden Dingen setzen, entstehen sich. Ungefährlich riefte man aus der Stellungen solcher Verstand in aufsteigen, indem man mit ihm empfand einen bestimmten Sinn verstand. Daher man mit der Wissenschaft lernen Sünden verstanden. Da man auch die Sprache hatte, so traten die Sinne in Eins getrennt aber in Eins gebunden. Der Meister hat die eine gewisse Sinn Sprache in dem Sinne kann. Auch hat man viele mit Wissenschaft beizubringen Verstand, welche man bestimmte Wissenschaft nennt. Für den geistlichen Gebrauch aber werden die Sinne in gewisse drei getheilt, nämlich in Verstand, welcher sich der Natur Sach und Verstand.

MANZU—Geschichte der Deutschen.

VI.

Ich will nicht mehr, ich will nicht küssen,
Denn mein Geheimnis ist mir theuer;
Ich würde die mein ganzes Leben prägen,
Wäre das Geheimnis nicht so theuer.

Der rechte Zeit verstreicht der Eusee Lauf
Du hast die Nacht, und sie muß sich erheben;
Der heile Tag schließt sich dem Leben auf,
Hilfheit der Erde nicht die tiefste Sehnsucht.

Glaube nicht im Sinn der Freude sein,
Dort kann die Nacht in Tagen sich erheben;
Wenn ein Schmerz bricht sich die Augen zu,
Hab mir ein Welt vermag sie aufzuheben.

Görne—Wilhelm Meister.

FRENCH.—I.

1. Compare the language spoken in France at the time of the troubadours with the present French, and state by what names they are distinguished from one another.
2. Which of the countries where Latin had been spoken came last to the possession of an independent language and literature?
3. During what period was the French language spoken by the superior classes of society in England?
4. What dialect was the general language of France in the ninth century?
5. To what dialect do we now give the exclusive name of French?
6. Which are among the most interesting productions in French of the Middle Age?

II.

1. How do you account for the same adjective in French being placed sometimes before and sometimes after the noun? Give examples.
2. What class of verbs is regular conjugated in English with the auxiliary *To Have*, while in French with *Etre*?
3. What do the French mean by the word *Renaissance*, and how was the French literature affected by the *Renaissance*?
4. Mention the most remarkable French writers of the seventeenth century, and give as many particulars as you can respecting their works.
5. Draw a parallel between *Corneille* and *Racine* as dramatic writers, showing how the difference may be accounted for.
6. What is the difference between *Vieux* and *Ancien*, between *Neuf* and *Nouveau*?
7. Enumerate the successive periods in the progress of the French language since its origin, giving the dates of their respective commencements.
8. Which of the numeral adjectives are flexible in French, and when?

III.

Translate into French:—

Our ancestors naturally looked with serious alarm on the growing power of France. This feeling, in itself perfectly reasonable, was mingled with other feelings less praiseworthy. France was our old enemy. It was against France that the most glorious battles recorded in our annals had been fought. The conquest of France had been twice effected by the Plantagenets. The loss of France had been long remembered as a great national disaster. The title of King of France was still borne by our sovereigns. The Hils of France still appeared, mingled with our own lions, on the shield of the House of Stuart. In the sixteenth century the dread inspired by Spain had suspended the animosity of which France had been anciently the object; but the dread inspired by Spain had given place to contemptuous compassion, and France was again regarded as our national foe.

MACAULAY—*History of England.*

IV.

Translate into English:—

Parler de La Fontaine n'est jamais un ennui même quand on serait bien sûr de n'y rien apporter de nouveau : c'est parler de l'expérience même, du résultat moral de la vie, du bon sens pratique, fin et profond, universel et divers, égayé de raillerie, animé de charme et d'imagination, corrigé encore et embelli par les meilleurs sentiments, consolé surtout par l'amitié ; c'est parler enfin de toutes ces choses qu'on ne sent jamais mieux que lorsqu'on a mérité soi-même. C. La Fontaine qu'on donne à lire aux enfants ne se goûte jamais si bien qu'après la quarantaine ; c'est ce vin vieux dont parle Voltaire et auquel il a comparé la poésie d'Illorace : il gagne à vieillir, et de même que chacun en prenant de l'âge sent mieux La Fontaine, de même aussi la littérature française, à mesure qu'elle avance et qu'elle se prolonge, semble lui secorder une plus belle place et le reconnaître plus grand.

SAINTE-BEUVE—*Causeries de Lundi.*

V.

Le Génie a besoin d'un peuple que sa flamme
Anime, éclaire, échauffe, embrasse comme une âme,
Il lui fait tout un monde à régir en tyran ;
Dès qu'il a pris son vol du haut de la falaise,
Pour que l'ouragan soit à l'aise,
Il n'a pas trop de l'océan !

C'est là qu'il peut ouvrir ses ailes ; là, qu'il gronde
Sur un abîme large et sur une eau profonde ;
C'est là qu'il peut bondir, géant capricieux,
Et tournoyer, debout dans l'orage qui tombe,
D'un pied s'appuyant sur la trombe,
Et d'un bras soutenant les cieux.

VICTOR HUGO—*Odes.*

ITALIAN.—I.

1. State the origin of the Italian language.
2. To what century do we trace the earliest genuine Italian ?
3. State the time when the Italian language in prose commenced to be used.
4. Who gave the first model of pure and elegant Italian prose ?
5. When does the *Divine Commedia* seem to have been commenced ?
6. Which of the Italian poets had most influence over the taste of his age, and who, more than any other, also gave stability to the Italian language ?
7. What is the origin of the Italian definite and indefinite articles ?
8. Who is considered the best Italian tragic writer, and when did he live ?
9. State what you know of *Dante's* life and writings.
10. Describe the state of the Italian literature during the seventeenth and eighteenth centuries.

II.

1. When is the definite article used in Italian before the words "*Signore*" and "*Signora*," and when not ?
2. When do the possessive pronouns refuse the definite article in Italian ?
3. When are the personal pronouns attached to the verb so as to form one word with them ? Is there no exception ?
4. How do the Italians render the English word "*some*" before a noun, and how at the end of a phrase not followed by a noun, as, for example, "*I have some* ?"
5. Is the past participle changeable in Italian—how and when ?
6. Which are the prepositions drawn together with the definite article in Italian, and when are both words drawn together so as to form but one ?
7. In what essential does the construction of an Italian phrase differ from that of an English one ?

III.

Translate into Italian:—

Does man require strength in order sincerely to humiliate himself, and to acknowledge himself a sinner ? Is it not true that, in general, we pass our youth in vanity, and that, instead of using all our efforts to advance in the career of good, we spend a great part of

it in degrading ourselves? There are exceptions; but I confess that they do not affect my humble self. It is no merit of mine to be discontented with myself. When one sees a torch giving forth more smoke than light, it does not require much candour to say that it does not burn well.

SILVIO PELLICO.—*Le mie Prigioni.*

VI.

Translated into English:—

Io ho pensato un nuovo modo per allevare un mio figliuolo, e voglio commendarlo a voi, perchè se vi pare che l'usanza possa essere di qualche utilità, pubblicate la mia intenzione. L'ho mantenuto prima alle scuole tutto quel tempo che m'è paruto a proposito, perchè egli facesse quel profitto ch'io desiderava. Ma non crediate già ch'io gli avessi trovati maestri di retorica o d'altre arti che insegnano a favellare, le quali a noi uomini di privata condizione non giovano punto; e vengono di rado adoperate, quando non deliberiamo d'essere avvocati, o divenire predicatori. In quello scambio l'ho fatto ammaestrare in varie lingue; tanto egli favella speditamente la inglese, la francese, la tedesca e la greca, quella però che volgarmente si parla, non quella d'Omero nè di Platone.

BOCCACCIO.—*Il Decamerone.*

V.

Voi ch'ascoltate in rime sparse il suono
Di quici sospiri, ond'io nodriva il core
In sul mio primo giovanile errore,
Quand'era in parte altr'nom da quel ch'io sono.

Del vario stile in ch'io piango e ragiono,
Fra le vane speranze, e'l van dolore,
Ove sia chi per prova intenda amore,
Spero trovar pietà non che perdono!

Ma ben vegg'or, sì come al popol tutto
Favola fui gran tempo: cade sovente
Di me medesimo moco mi vergogno

E del mio vaneggiar vergogna è'l frutto
E'l pentirsi, e'l conoscer chiaramente
Che quanto piace al mondo è breve sogno.

PETRARCHA.—*Sonetti.*

30th September, 1854, 2 o'clock, p.m.

MATERIA MEDICA AND PHARMACY.—*Examiner, Dr. Aquilla Smith.*

1. State the specific gravity of pure nitric acid, pure muriatic acid, and pure sulphuric acid.
2. Describe the mode of taking the specific gravity of fluids with an ordinary phial, instead of a specific gravity bottle.
3. Explain the processes for preparing the red iodide of mercury, and the green iodide of mercury; and state the difference in their composition.
4. Describe the characteristics of good scammony, its adulterations, and the means of detecting them.
5. Give the composition of the confection of scammony, and state what proportion of scammony is in a given quantity of the confection.
6. What proportion of mercury is in the preparation of mercury with chalk, and mercury with magnesia? and how is one preparation to be distinguished from the other?
7. If uva-ursi leaves should be adulterated with the leaves of the whortleberry, or with box leaves, how is the fraud to be detected?
8. In what form does iron exist in the compound mixture of iron, and what changes usually take place some time after the mixture has been prepared?
9. Describe the properties of tannic acid, and the process for preparing it according to the Dublin Pharmacopœia.
10. Prescribe a full dose of camphor in the form of pills; and also in the form of a draught, so that the camphor will not separate on the addition of water.

MATERIA MEDICA, PHARMACY, AND MEDICAL JURISPRUDENCE.—*Examiner, Dr. Aquilla Smith.*

1. How many fluid ounces, Imperial measure, are equivalent to one pound avoirdupois weight of pure sulphuric acid?
2. Explain the process for preparing the *pulvis ferri* of the Dublin Pharmacopœia, and the means by which you would determine its specific gravity.
3. Mention the adulterations of sulphate of quinine, and give the tests for detecting them, particularly salicine.
4. State the exact proportion of each ingredient in the compound calomel pill of the Dublin Pharmacopœia, and explain the process for preparing precipitated sulphuret of antimony, and give its composition.
5. How is artificial camphor prepared, and by what means can it be distinguished from common camphor?
6. Enumerate the chief agents used as disinfectants; explain their action, the modes of using them, and state their relative value.

7. Mention the circumstances under which carbonic acid is most usually generated, as to render it dangerous to human life; and state the treatment to be adopted in cases of asphyxia arising from exposure to carbonic acid.

8. A green powder having been found in the stomach of a female, suspected to have died from the effects of strychnine, by what characters would you recognise it to be strychnine?

9. Describe the symptoms, the treatment, and post mortem appearances of poisoning by corrosive sublimate; and point out those circumstances which, during life, assist in distinguishing mercurial from arsenical poisoning.

2nd October, 1854, 9 o'clock, a.m.

ANATOMY AND PHYSIOLOGY.—Examiner, Croker King, M.D.

1. In what manner does the suspension of the respiratory process in mammalia arrest the general circulation?

2. According to Willis, what relative position of the vocal cords is necessary for the production of voice; by the action of what muscles can this adjustment be effected?

3. Give examples of various modifications of the alimentary canal of animals, in accordance with the nature of their food.

4. Through the reflex action of what nerves can the respiratory muscles be called into action?

5. What determines the nature of a secretion? Has the form of the gland any influence? Support your opinion by facts derived from the study of Comparative Anatomy.

6. Describe the corpuscles that have been detected in the fluid to which the term coelostrom has been applied; and state under what circumstances this fluid is found, and its supposed use.

7. According to the most generally received views as to the function of the cerebellum, in what class of animals ought this organ to be least developed; in what class well developed; and in what animal most developed?

8. What nerves are distributed to the nasal cavity and its orifices? Can you assign any reason why the nose should receive its nervous supply from such varied sources?

9. Do you know of any experiments having been performed in order, if possible, to determine the relative sensibility of various parts of the human body? If so, state the results obtained.

10. Can you trace any functional analogy between the vessels of the lungs and those of the liver.

11. What reasons have been given for regarding the spleen as an appendix to the absorbent system?

12. Describe the form, situation, and uses of the ciliary muscle, by whom was it first described, and in what class of animals.

2nd October, 1854, 9 o'clock, a.m.

ANATOMY AND PHYSIOLOGY.—Examiner, Croker King, M.D.

1. Has the supply of food a marked influence upon the size of the individual? In which of the two kingdoms, animal or vegetable, is the result most manifest? What animal tissue is directly increased by an over supply of food? State the circumstances which favour this deposition or growth.

2. For what different purposes is aliment required by man?

3. Through what channel, and in obedience to what physical law, are matters in a state of perfect solution, and water, said to be introduced into the system?

4. To what circumstance is the milky colour of the contents of the lacteals due?

5. Who first described the foramen centrale of the retina? In what animals has it been since observed?

6. State the physiological uses which have been assigned to the following portions of the organ of hearing:—the vestibule, the semicircular canals, the cochlea, the tympanum, the ossicula, and the external ear.

7. How can you prove that sensation is not a necessary link in the chain of reflex actions?

8. Describe the anatomy of a palmaric lobule, particularly noticing the arrangement of the air cells and vessels, and assigning to each of the latter its peculiar office.

9. Contrast the behaviour of striated with that of non-striated muscular fibres under the influence of direct stimuli.

10. What appears to be the most satisfactory explanation which has been afforded as to the cause of the sensation of hunger?

11. Are you aware of any experiments having been made on warm-blooded animals, the object of which was to show that the amount of carbonic acid expired is influenced by the external temperature? If so, relate them, and state the results which have been obtained.

12. How has it been proved that the alterations in the colour of the blood caused by submitting it alternately to the influence of oxygen and carbonic acid gases, are more due to change of form than of composition?

2nd October, 1854, 2 o'clock, p.m.

HUMAN ANATOMY.—Examiner, Croker King, M.D.

1. Give an accurate description of the form of an arytenoid cartilage, and of the exact points of attachment of its several muscles and ligaments.

2. What anatomical circumstances favour, or, on the contrary, have a tendency to resist, dislocation of the patella, in a direction outwards?
3. Describe the deep connexions of the parotid gland.
4. Describe the relations of the thyroid body.
5. Describe the arrangement of the following structures in the trachea—white fibrous tissue, yellow fibrous tissue, muscular fibre.
6. Are you aware of any arterial irregularity which it is necessary to bear in mind in operating for strangulated femoral hernia? Can you explain why this irregular distribution is so prone to occur?
7. Mention the principal anatomical predisposing causes of inguinal and of crural hernia.
8. The action of what muscles can produce the following alterations of form and direction of the tongue:—to render its dorsum convex or concave; to direct the tip to either side; to press it against the upper incisor teeth; to retract it into the mouth; to diminish its perpendicular, longitudinal, or transverse diameters?
9. Describe the form and the relations of the prostate gland.
10. The gluteus maximus having been divided by a vertical incision, and the edges separated, describe the relative position of the parts exposed.
11. In what manner is the aorta connected with the heart?
12. State the anatomical points of distinction between the direct and the oblique forms of inguinal hernia.

HUMAN ANATOMY.—*Examiner, Croker King, M.D.*

1. Describe the anatomical limits of the human spinal cord in the adult; also its form, contractions, enlargements, and the appearance presented by sections of it in the cervical, central dorsal, and lumbar regions. Is any relation said to exist between the physical development of the spinal cord and the sensitive and motive power of the parts which it supplies with nerves?
2. Describe the distribution, and also the functions of the several nerves found within the cavity of the orbit.
3. Contrast the mucous membranes of the stomach, duodenum, jejunum, ileum, colon, and rectum, with each other.
4. Describe the relations of the ureter in the male, and also in the female.
5. With what other fibrous structures is the fascia iliaca continuous?
6. Whence are the nerves of the diaphragm derived? Can you offer any explanation why its nervous endowments should proceed from such varied sources?
7. What nerves supply the Buccinator muscle? and why does it receive nerves from so many sources?
8. Enumerate the commissures of the brain, and state what parts they connect.
9. What results would follow from paralysis of the lower division of the third cranial nerve?
10. What anatomical provisions exist to limit extension of the knee joint, and rotation of the tibia upon the femur?
11. Describe the boundaries of the muscular space at the upper and inner part of the thigh, where the principal anastomosis takes place between the internal circumflex branch of the profunda and obturator arteries.
12. Describe the true ligaments of the bladder, and state with what other fibrous structures they are continuous.

EXAMINATION FOR THE DEGREE OF A.B.

19th September, 1854, 9 o'clock, a.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

Translate any two of the following extracts:—

HORACE.—SATIRES, BOOK I.

Ventum erat ad Vestes, quarta jam parte diei
 Præterita, et casu tunc respondere vadato
 Debebat, quod mi fecisset, perdere litem.
 Si me amas, inquit, peculum hic ades. Intaream si
 Aut valeo stare aut novi civilia jura;
 Et prope quo acis. Dehinc sum quid faciam, inquit,
 Tunc relinquam an rem. Me, oedes. Non faciam, ille,
 Et procedere coepit. Ego, ut contendere durum est
 Cum victore, sequor. Mœcenas quomodo totum?
 Hinc repetit; paucorum hominum et mentis heno sanæ;
 Nemo dexterius fortuna est naus. Haheres
 Magnum adiutorem, posset qui ferro secundas,
 Hunc hominem velles si tradere; dispeream mi
 Sammosas omnes. Non isto vivimus illic,
 Quo tu rere, modo; domus hæc nec prior ulla est
 Nec magis his aliam malis; nil mi cœdit unquam,
 Ditor hic est aut quia doctior; est locus uni—
 Cuique suus.

HORACE.—EPISTLES, BOOK I.

Septimius, Claudii, nimirum intellegit unus
 Quanti me facies; nam quum rogat et prece cogit
 Scilicet ut tibi se laudare et tradere coner
 Dignum mente domoque legentis honesta Neronis,
 Munero quum fungi propriis comest amici,
 Quid possim videt ac novit me valdus ipso.
 Multa quidem dixi, cur amatus abirem;
 Sed timui, non ne fingere misceam putarer,
 Dissimulatur opis propriæ, mihi commodus ami.
 Sic ego majoris fugiens cogebrin culpas,
 Frontis ad urbanæ descendi præmia. Quocidi
 Depositum laudas ob amici jussu pudorem,
 Scribe tui gregis hunc, et fortem crede bonumque.

HORACE.—AES PORTICA.

Scribondi recte sapere est et principium et fons:
 Rem tibi Socraticam poterunt ostendere chartæ,
 Verbaque proviam rem non invita sequuntur.
 Qui didicit patrius quid debeat et quid amicus,
 Quo sit amore parens, quo frater amandus et hospes,
 Quod sit conscripti, quod iudicis officium, quæ
 Partes in bellum missi ducis, ille profecto
 Reddere personæ scit convenientia cuique.
 Respicere exemplar vitæ morumque jubebo
 Doctum imitatorum et vivas hinc ducere voces.
 Interdum speciosa locis morataque recte
 Fabula nullius veneris, sine pondere et arte,
 Valdus oblectat populum meliusque moratur
 Quam verus inopis rerum nugæque canora.
 Gravis ingenium, Gravis dedit ore rotundo
 Musa loqui, præter laudem nullius avari.
 Romani pueri longis rationibus æsem
 Discant in partes centum distribuere. Dicat
 Filius Alibi: si de quinquunce remota est
 Unciæ, quid superat? Pateras dixisse, Triens. Eæ!
 Rem poteris servare tuam. Reddit unciæ, quid sit?
 Semis. At hæc amicos arago et cum pecuni
 Quam senex imbuerit, speramus carminis fingi
 Posse linenda cedere et levi servanda cugresso?

SALLUST.

Inter ea Romæ C. Mamilius Læmetanus tribunus plebis rogationem ad populum promulgat, uti quaereretur in eos, quorum consilio Jugurtha Senati decreta negligisset, quique ab eo in legationibus aut imperiis pecunias accepissent, qui elephantos quique peragras tradidissent, item qui de pace aut bello cum hostibus pactiones fecissent. Hinc rogationi partim censis sibi, alii ex partium invidiâ pericula motuentes, quosdam aperte resistere non poterant, quin illa et aliis talia sibi placere faterentur, occulte per amicos, ac maxime per homines nominis Latini et socios Italicos impedimenta parabant. Sed plebes incredibile memoratu est quam intentis fuerit, quantaque vi rogationem jussit, decreverit, voluerit, magis odio nobilitatis, cui mala illa parabantur, quam cum republicæ; tanta libido in partibus erat. Igitur ceteris aetæ periculis M. Scæurus, quem legatum Bestiæ fuisse supra docuimus, inter lætissimam plebis et suorum fugam, trepidum etiam tum civitate, quam ex Mamili rogatione tres quasitores rogarentur, effugerat, ut ipse in eo numero crearetur. Sed quæstio exercita asperè violentaque, ex rumore et lubrico plebis; ut sæpe nobilitatem, sic ea tempestate plebem ex secundis rebus insolentia ceperat.

TERENCE.—ÆDELPH.

Syrus. Edæpel, Syrisce, te curasti molliter,
 Lauteque munus administrasti tuum:
 Abi. Sed postquam latus sum omnium rerum satur,
 Prodeambulare hoc libitum est.
 Dæmos. Illuc sis vide,
 Exemplum disciplinæ!
 Sy. Ecce autem hic adest
 Senex noster. Quid sit? quid tu es tristis?
 D. Oh! æelus.
 Sy. Oho! jam tu verbe fundis hic sapientia?
 D. Tu si meus esses—
 Sy. Dis quidem esses, Dæmos,
 Ac tuam rem constabillises.
 D. Exemplo omnibus
 Curarem ut esses.
 Sy. Quamobrem? quid feci?

D. Rogas ?

In ipsa turba, atque in peccato maximo,
Quod vix sedatum sentis est, potasti, scelus,
Quasi re bene gesta.

Sg. Sane nullo modo hoc exitum.

TERENCE.—PHORMIO.

Phormio. Itane petris ais conspectum veritum hinc abisse ?

Geta. Admodum.

P. Phasium relictam solam ?

G. Sic.

P. Et iratam senem ?

G. Oppido.

P. Ad te summa solus, Phormio, rerum redit ;

Tute hoc intristi ; tibi omne est exedendum ; attingere.

G. Obsecro te.

P. Si rogabit—

G. In te spes est.

P. Ecce.

Quid si reddet ?

G. Tu impulisti.

P. Sic opinor.

G. Subveni.

P. Cedo senem : jam instructa mihi sunt corde consilia omnia.

G. Quid ages ?

P. Quid vis ? nisi uti maneant Phanium, atque ex crimine hoc

Antiphenem eripiam, atque in me causam iram decivem somis ?

G. O vir fortis atque amicus ! Verum hoc scire, Phormio,
Veretur, ne istae fortitudo in nervum erumpat denique.

CICERO.—IN CATILINAM ORATIO QUARTA.

Nunc Patres conscripti, ego mea video quid intendi. Si eritis acenti sententiam C. Caesaris ; quoniam hanc in re publica viam, quae popularis habetur, secutus est, fortasse minus erunt, hoc auctore et cognitore huiusmodi sententiae, mihi populares impetus pertimescendi : sin illam alteram, nescio an amplius mihi negoti contrahatur. Sed tamen meorum periculorum rationes utilitas reipublice vincat. Habemus enim a C. Caesare, sicut ipsius dignitas et maiorum ejus amplitudo postulat, sententiam, tanquam obidem perpetuae in rempublicam voluntatis. Intellectum est, quid intersit inter levitatem condonatorum, et animum vero popularem, saluti populi consulentem. Video de istis qui se populares haberi volunt, abesse non nominam, ne de capite videlicet civium Romanorum sententiam ferat. Is et nullius in custodiam cives Romanos dedit, et supplicationem mihi decrevit, et indicem hesterno die marci praemia affecit. Jam hoc nemini dubium est, qui reo custodiam quansitori gratulationem indicii praesulam decrevit, quid de tota re et causa iudicabit.

TACITUS.—AGRICOLA.

Plus vite ejus nobis luctuosas, amicis tristis, extraneis etiam ignotique non sine cura fuit. Vagus quoque et hic aliud agens populus et veneficere ad domum et per fora et circulos locuti sunt ; nec quisquam audita morte Agricola aut letatus est aut statim oblitus. Augere miseracionem constans rumor vocem interceptum. Nobis nihil occulti affirmare ausim : eorum per omnem validitudinem ejus, crebris quam ex more principatus per nuntios videntis, et libertorum primi et medicorum intui videri, sive extra illud sive inquisitio erat. Supremo quidem die momenti deficientis per dispositos cursores nuntiata constabat, nullo credendo sic accelerari quae tristis audiret. Speciem tamen doloris animo vultuque prae se tulit, securus jam edii, et qui facilius dissimularet gaudium quam metum. Satis constabat lecto testamento Agricola, quo colorem optima uxori et piissima filiae Domitianam scripsit, letatum eum velut honore iudicioque. Tunc enim et corrupta mens assiduis adulationibus erat, ut nesciret a bono patre non scribi heredem nisi malum principem.

TACITUS.—GERMANIA.

Ergo septae pedicibus agunt, nullis spectaculorum illocebris, nullis coconviviorum irrationibus corruptae. Litterarum secreta viri pariter ac feminae ignorant. Paucissima in tam numerosa gente adulteria ; quorum poena praesens et maritis permixta. Accidis criminibus, nudatum, eorum propinquis expellit domo maritus, ac per omnem vicum verberare agit. Publicae enim pudicitiae nulla venia : non forma non aetate non opibus maritum invenit. Nemo enim illis vitia ridet ; unde corrumpere et corrumpi aeternum vocatur.

VIRGIL.—ÆNEID, BOOK IV.

Tandem his Ænean compellat vocibus ultro :

Dissimulare etiam sperasti, perfide, tantum

Posse nefas ? tactusque mea decedere terra ?

Nec te nosse apor, nec te data dextera quondam,

comforted his earlier days; he took refuge in the humble dwelling of his nurse, feeling, as he afterwards used to say, that the small income which alone he possessed (a pension of less than fifty pounds, settled upon him by his father) would tend to increase somewhat the comforts of the poor people with whom he should board. Here he remained happy and contented for forty years—that is, until his health compelled him to change his abode, when the age of the good woman would not permit her to accompany him.

LONG BROUGHAM—*Men of Letters.*

II.

Translate into English :—

Ajoutez au ménage trois sœurs de mon aïeule, et la sœur de ma mère, cette tante qui m'est restée; c'était au milieu de ces femmes et d'un essaim d'enfants que mon père se trouvait seul : avec très peu de bien tout cela subsistait. L'ordre, l'économie, le travail, un petit commerce, et surtout la frugalité, nous entretenaient dans l'aïeance. Le petit jardin produisait presque assez de légumes pour les besoins de la maison; l'enclos nous donnait des fruits, et nos coings, nos pommes, nos poires, confits au miel de nos abeilles, étaient, durant l'hiver, pour les enfants et les bonnes vieilles, les dîners les plus exquis. Je ne sais pas quel mets nous eût paru meilleur que nos raves et nos châtaignes.

MARMONTEL.—Mémoires.

III.

Seul, le bien est absolu; seul, il est nécessaire. Le mal dans le monde! c'est un immense accident. Et voilà pourquoi son rôle est d'être incessamment vaincu. Or, tandis que les victoires du bien sont définitives, les défaites du mal sont irréversibles: l'imprimerie restera; et l'on ne rétablira pas la torture, on ne rallumera pas les bûchers de l'inquisition. Que dis-je? Il devient manifeste par la marche des choses et la tendance commune aux graves esprits, que le progrès ne s'accomplit plus désormais à des conditions violentes. Déjà dans les relations de peuple à peuple, l'industrie est venue montrer que, pour la propagation des idées, on peut se passer de la guerre; et, dans les relations civiles, la raison recourt de mieux en mieux que l'ordre peut se passer de la honte.

LOUIS BLANC—*Révolution Française.*

GERMAN—L.

Translate into German:—

Germany, in the second moiety of the seventeenth century, fell lower and lower in classical literature. A writer, as late as 1714, complains that only modern books of Latin were taught in the schools, and that the students in the Universities despised all grammatical learning. The study, "not of our own language, which we entirely neglect, but of French," he reckons among the causes of this decay in ancient learning. However, as the century drew nigh to its close, Germany began to revive.

HALDAN—*Literature of Europe.*

II.

Translate into English :—

Übersetze ins Englische:—
 Als man bei Fische fange ist er in Gefahr. Nicht leicht habe, antwortete er: "Alle Fische sind ich bewohnen, und alle haben was ein vollständiges Gelingen, was sagen wir, ich habe. Ich habe nicht gelernt als bei ich nicht weiß."—Fische sind viel besser, der etwas unvollständig was weißt ich, von einem Fische, der nicht unvollständig ist. Man könnte die Fische mit einem Fisch vergleichen, der die Fische nicht, aber es ist ein Fische.

Görne—West-Östlicher Diwan.

III.

Das beschriebene Krieg (sitten die Seiten mit 2). In diesem hatte die Information sehr viele Vorteile. Wenn die Beschäftigten diesen, die häufig Schiffe waren, verließen, so konnten diese Kinder zu sehen, und ebenfalls Schiffe zu sehen. Der von den Schiffen erzeugte starke Windsturm (1. von ganz der Natur). Hierbei wurde von den Schiffen zum Gegenstand gewickelt, hatte aber nicht. Auch noch (nicht) ganz, und auch nicht (nicht) ganz. Diese Schiffe, die Krieg wurde er sogar aus (nicht) ganz. Die Schiffe wurden (nicht) ganz und (nicht) ganz. Schiffe wurden (nicht) ganz.

Schiller—Dreißigjähriger Krieg.

ITALIAN—L

Translate into Italian :—

“HOWEVER,” said the doctor, “it would, above all, seem to me very suitable to ask the Indian by what means one may discover truth; since, if it be by means of reason, as I have endeavoured to do up to this, reason varies with all men. I must ask him also, where one has to look for truth; since, if it be in books, they all contradict one another: and, at last, if truth ought to be communicated to men; since, as soon as one makes it known to them, one falls out with them.”

BURNARDON DE ST. PIERRE—*La Chaudière Indienne.*

II.

Translate into English :—

La mia picciolaletta barca è pervenuta al porto, al quale ella dirizò la prora, partendosi dall' opposto lito: e comechè il piliaggio sia stato piccolo, il mare, il quale ella ha solcato, basso e tranquillo; non dimeno, chò senza impedimento è venuta, ne sono da render grazie

a colui, che felice vento ha prestato alle sue vele, al quale con quella umiltà, con quella devozione, con quella affezione che io posso maggiore, non quelle, né così grandi come alle ai converranno, ma quelle ch'io posso, rendo, benediceudo in eterno il suo nome e'l suo valore. E così sia.

Boccaccio—*Vita di Dante*.

III.

Amata la vita; ma amata non per volgari piaceri e per misere ambizioni. Amata per ciò che ha d'importante, di grande, di divino! Questa vita cui tanta stima tu devi, sii memore esserti data per breve tempo. Non dissiparla in soverchi divertimenti. Concedi soltanto all' allegria ciò che vuoi per la tua salute e pel conforto altrui. O piuttosto l'allegria sia da te posta in principal guida nell' operare degno; cioè nel servire con magnanima fratellanza a' tuoi simili, nel servire con filiale amore ed obbedienza a Dio.

Silvio Pellico—*I Doceri dell'uomo*.

20th September, 1854, 3 o'clock, p.m.

SPECIAL GROUP B.—ENGLISH PHILOLOGY AND CRITICISM.—*Examiner, Rev. C. F. Darby, A.M.*

1. Give in detail, Beda's account of the Gothic invasion of Britain, after the Roman dominion had ceased in that country; the names of the several invading tribes; the regions, respectively, from whence they came, and those in which they settled in Britain; the dates of the commencement and of the termination of the invasion, &c.; and correct this account by the views of modern authorities writing on the subject.

2. Assign the date of the settlement of the Danes in England, and enumerate the provinces of the Danelagh.

3. Give a full and comprehensive account of Layman's "Drut," and the various subjects appertaining to it.

4. State the period when Robert de Brunne lived, the stage of language which his writings represent; the names of those writings, and their subjects, &c., along with any other facts or circumstances that may be connected with the inquiry.

5. Name the period when the French language in England ceased to be a medium for the instruction of youth, and cite a contemporary authority for the fact.

6. State Mr. Price's arguments maintaining that the corruption of the Anglo-Saxon language was not due to the French language acting upon it, and criticise any of those arguments which you may consider to be questionable. Go fully into the subject.

7. State, according to Tyrwhite, the period in which the English vocabulary underwent a change, owing to its partial amalgamation with the French vocabulary. Name the English writers whose works he conceives to exemplify that change, and mention any general facts or arguments which he puts forward to show that the admixture of the two languages did not commence with Chaucer's period, but at a considerable time before.

8. Give a sketch of the literature and science of the 17th century in England. Go fully into the subject.

21st September, 1854, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Divide 3692 by '96, and explain the process employed.

2. Add together $\frac{1}{3}$, $\frac{2}{3}$, and explain the process employed.

3. Find the greatest common measure of 713 and 1922, and give an algebraic analysis of the process employed.

4. Extract the square root of 103041.

5. Find '356 of a £1, '453 of an acre, '376 of a ton.

6. Find the interest upon £753 for 79 days, at 6 per cent per annum, and show algebraically the validity of the step in the ordinary method, which consists in division by 3, by 10, and by 10, &c.

7. Calculate the present worth of a bill for £550 drawn the 2nd March, at 3 months, discounted 21st March at 5 per cent; and show that discount charged according to the ordinary practice exceeds the true discount.

8. Find the values of x and y from $3x + 5y = 32$, $2x - 3y = 15$.

9. Solve the quadratic $x^2 - 9x + 20 = 0$.

10. Prove that the sum of the three angles in any triangle is equal to two right angles.

11. Construct a square equal in area to a given polygon.

12. Prove that angles in the same segment of a circle are equal to each other.

13. Inscribe a regular hexagon in a given circle.

14. If the base of a triangle be produced to meet the bisector of the external vertical angle, prove that the segments of the base are proportional to the sides.

15. The logarithm of 21 is 1.3222193; hence find the logarithm of '021.

16. Investigate the formula $\sin a = 2 \sin \frac{1}{2} a \cos \frac{1}{2} a$.

17. Hence prove that $\frac{\sin a}{a} = \cos \frac{1}{2} a \cos \frac{1}{2} a \cos \frac{1}{2} a$.

18. Calculate the value of the tangent of 30° to three places of decimals.

21st September, 1854, 2 o'clock, p.m.

LOGIC AND METAPHYSICS.—*Examiner, Rev. James M. Cook, LL.D.*

I.—LOGIC.

1. What are the prediabilities of Porphyry? Explain particularly what is meant by species. Have these prediabilities the sanction of Aristotle?

2. What is definition according to logicians? What, according to Locke? What sort of ideas are represented by Locke as incapable of definition.

3. What is the nature of the third syllogistic figure? Why must the conclusion in that figure be particular? What arguments naturally fall into this form? Is the following in this figure?

A, B, C, are X.
A, B, C, are all Y.
All Y is X.

4. What fallacy is involved in the following:—

"Very many persons who have a powerful memory have not a strong judgment; but A, B, C have a powerful memory; we may therefore conclude that they have not a strong judgment."

"Liberty is a good thing, provided it is not abused, but it is abused, and so it is not a good thing."

5. What are the distinguishing characters of demonstrative and probable (moral) evidence? To which of these does testimony belong?

6. What is the nature of the argument from analogy? What is its value, and what are its deficiencies?

7. On what grounds does Bacon in his *Novum Organum*, justify the hope cherished by him of great advancement in the sciences? State in syllogistic form the substance of his reasonings on this subject.

8. What did Bacon regard as the principal features and excellences of the method propounded by him, in opposition to that employed in ancient times, and in the scholastic ages?

9. Can there be a complete enumeration of all the particulars of a general law in physical investigation? On what ground are we entitled, from an enumeration not perfect, to rise to a general law?

II.—METAPHYSICS.

1. What is the nature of consciousness? What opinions have been entertained by eminent philosophers as to its being or not being a separate faculty of the mind? Is it a source of ideas?

2. State the views of those who represent the mind in sense-perception, as contemplating (having for its object) merely its own states. Give the defence of these views and the objections to them.

3. What seems to be the primary or intuitive knowledge obtained by means of the eye, and what, in contradistinction, is the knowledge acquired by experience through the same senses? What light has been thrown upon the way in which the solidity of a body is perceived by the late discoveries in regard to binocular vision?

4. What is Aristotle's classification of the laws of the succession of our mental states? Do you know of any simpler classifications that have been proposed?

5. How did Descartes establish the existence of the corporeal world? State, in contradistinction, the doctrine of Dr. T. Reid.

6. On what grounds does Locke deny the existence of innate ideas? What are the principal notions which, according to the opponents of Locke, cannot be derived from experience? Have you observed any ambiguity in the use of the word *idea*, in this controversy?

7. What is Plato's doctrine in regard to ideas? What are Kant's ideas of pure reason? What objective value did Kant ascribe to them?

8. What are the principal metaphysical principles which Reid sought to establish? How did he use them in opposition to the scepticism of Hume?

9. Can experience give us necessary and universal truths? In answering this question, give your reasons for the doctrine espoused, and in particular show how our belief in cause and effect originates, and examine the doctrine of Mr. J. S. Mill, who says, in reference to the law of causation, "In distant parts of the stellar regions, where the phenomena may be entirely unlike those with which we are acquainted, it would be folly to affirm confidently that such a law prevails."

22nd September, 1854, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, Edmund Roscoe, Ph.D.*

1. Define the terms *specific heat* and *latent heat*.

2. State the four principal laws of combining proportion.

3. What relations subsist between the equivalent weights and the volumes of bodies in the gaseous state?

4. What laws do the volumes of gases observe with reference to pressure and temperature?

5. Explain the use and principle of action of Daniell's Hygrometer.

6. Give an account of the theory of combustion, describing also the structure of flame and proximate cause of luminosity.

7. Whence is the element sulphur obtained, in what different commercial forms is it met with, and how are these prepared from the crude material; what are the principal chemical and physical properties of the element, and what the composition of the more important compounds into which it enters as a constituent?

8. What different classes of compounds does oxygen form with other elements? Give an example of each class.

9. Show, by the use of symbols, the process for obtaining gaseous ammonia, and state the constitution of the ordinary ammoniacal salts.

10. In what relative quantities, by weight, should the ingredients be employed for preparing NO , HO , from K_2O , NO_2 .—

N.B.—Equiv. of N = 14	
" O = 8	
" S = 16	
" H = 1	
" K = 39	

11. How would you prepare sulphide of baryum from sulphate of baryta, and what products are obtained when the sulphide is boiled with oxide of copper?

12. When the peroxide of a metal is treated with hydrochloric acid, what are the usual products of the reaction?

13. What reagents are employed in analysis to distinguish the metallic oxides into classes, and what is the nature of the precipitates they produce?

14. Name the specific tests for chlorine, iodine, sulphuric acid, and nitric acid respectively.

15. How is the elementary composition of an organic substance containing the four elements, carbon, hydrogen, oxygen, and nitrogen, ascertained?

16. Define the term composed organic radical, adducing illustrations of the different kinds of radicals, and of the bodies derived from them; also mention the recent experiments which prove the separate existence of members of this class, previously hypothetical.

17. Explain, with the aid of symbols, the process for obtaining alcohol, stating the conditions essential to fermentation, and the theory of ferments.

18. What is the composition of cyanogen? To which class of chemical substances does it belong? What remarkable compounds does it form with some of the metals, and which of these find important application in the arts?

19. Name the more important of the amylaceous and sanguineous elements of animal food. State their general composition, and the respective functions which they perform in the living body.

20. What is the chemical constitution of the fats, and how are they affected by the action of alkalies?

22nd September, 1834, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—Examiner, G. F. Shaw, F.T.C.D.

1. Why must railways be more level than carriage roads need be; and carriage roads more level than footpaths?

2. A force of 17 lbs. applied for three seconds of time to a cubic foot of timber produces in it a velocity of 42 feet. Find the weight and specific gravity of the timber.

NOTE.—A cubic foot of distilled water weighs 62·5 lbs.

3. The centrifugal force of bodies at the earth's equator is ·11126 feet. (a) Prove this; and (b) assuming it, show that bodies at the equator would be apparently devoid of weight, if the earth revolved in its axis 17 times as quickly as it does.

NOTE.—Assume gravity at the equator to be 32·136 feet.

4. A certain fixed star rises to-night at 10 o'clock. At what hour will it rise in 65 days hence?

5. (a) Describe, generally, the phenomena presented by Venus or Mercury, on successive nights, during a revolution of one of these planets round the sun; and show how to explain these motions, and predict the time of their recurrence, both by (b) the Copernican and (c) the Ptolemaic theories.

6. By the application of heat, 120 cubic inches of gas at 60° F. expands into 180 inches, the pressure being kept constant; required the change in the temperature. (b) Supposing the volume to have been kept constant, required the increase in the pressure.

NOTE.—Assume that for each degree of Fahrenheit additional the gas expands (under a constant pressure) by $\frac{1}{4975}$ part of its volume at 32°.

7. A nugget, partly gold (sp. gr. = 19·35), and partly quartz (sp. gr. = 2·62) weighs 11·5 oz. in air, and 8·75 in water. Find how much gold it contains.

8. Let two thin convex lenses, having the same axis, be 10 inches apart, their focal lengths being four and three inches respectively. Find the focus to which rays incident on the first, parallel to its axis, will be brought by the combination.

9. Describe the principal experiments illustrative of the mutual actions of electric currents.

23rd September, 1854, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Dickie.*

1. Describe peculiarities in the relations of the dental tissues in mammalia, having reference to peculiarities of habit. Illustrate by examples.
2. Describe the general characters of the skull in the genera *Felis*, *Dolphinna*, and *Lepus*, respectively.
3. Refer the Marsupialia and Monotremata to their place in the animal kingdom; state the general characters of each, and give the derivations of the terms.
4. Define the class insecta, state the orders into which it is usually divided, and give the derivations of the names of orders.
5. Define the class Echinodermata; state the orders adopted by Professor E. Forbes in reference to our native species, and mention an example of each order.

BOTANY.

1. Describe the general structure of leaves.
2. Describe, and illustrate by plans, the relative position of the parts of symmetrical flowers in which the numbers 2, 5, and 6 respectively prevail.
3. Describe the true nature of the fruit in *Ficus*, *Potum*, *Fragaria*, and *Rubus*.
4. Describe the development and structure of the pollen.
5. State the organic constituents of plants and their sources.
6. Refer the following to their respective class, sub-class, and order: *Agaricus*, *Lycopodium*, *Ficus*, *Lilium*, and *Ranunculus*.

23rd September, 1854, 2 o'clock, p.m.

PHYSICAL GEOGRAPHY.—*Examiner, Frederick McCoy, F.G.S.L., Hon. F.C.P.S.*

1. What is the general form of the earth, and what is the approximate amount of difference between the major and minor axes?
2. What is the mean proportional per centage of salt to water in the Baltic, and in the Atlantic, and Dead Sea, respectively?
3. Give the name, course, area of drainage in square miles, and direct approximate length of the largest river on the earth?
4. Enumerate some of the so-called "rainless regions" of Africa, Asia, and America, with their approximate area.
5. Give Humboldt's estimates of the mean elevation of the earth's surface above the sea, and of Europe and Asia separately, in feet, or an approximation thereto.
6. Describe the features and mode of formation of the three chief kinds of coral reefs, according to the classification of Darwin.
7. What number of daily maxima and minima of atmospheric pressure are well known, at what hours do they occur, and where are they most regular?
8. What is the average height of the snow line at the equator, and in what latitude is it about one foot high?

25th September, 1854, 9 o'clock, a.m.

POLITICAL ECONOMY.—*Examiner, William Neilson Hancock, LL.D.*

1. Define the price of a commodity.
2. State the causes which affect or limit the variations in the prices of the same commodity, in different places at the same time, and at different times in the same place.
3. What are the chief sources of the influence of limitation of supply on value?
4. State the theory of land-rent.
5. In a district where each portion of land, and of capital applied to it, was equally productive, would land-rent exist?
6. Show the circumstances on which it depends whether rent or tithes will increase fastest.
7. State the advantages of division of labour, distinguishing those pointed out by Adam Smith, by Senior, and by Col. Torrens.
8. What is the difference between the price of labour and the amount of wages?
9. What, according to Senior, are the three senses in which wages are termed high or low?
10. What effect is a state of war likely to have on the rate of wages, according to Ricardo, and how do you prove or disprove his opinion?
11. The doctrine of Dr. Chalmers, that the pressure of population against the means of subsistence may be expected to increase with the progress of mankind, has been refuted by Archbishop Whately.
12. Define capital, and state whether or not you consider as capital—
 - (a) Money in the funds.
 - (b) Railway shares.
 - (c) Uncaught fish.
 - (d) Labour.
 - (e) Acquired skill.
 - (f) Intelligence.
 - (g) Improvements effected on land.

JERISPHIDINACT

1. What branches of law were most cultivated amongst the Greeks, and for what reasons?
2. On what erroneous principles does Montesquieu proceed in his *Esprit des Loix*, in tracing the origin of human laws?
3. What is the error in Rousseau's system as to the obligation of human laws, and how is this error to be refuted?
4. What is the true method of philosophising in jurisprudence, according to Roddie?
5. What is Lord Bacon's description of this method as applied to jurisprudence?
6. What jurist may be considered as the representative of what is called the historical school of jurists, and what are the characteristics of this school?
7. What is the principal defect in the analytical school of jurists?
8. What was the plan of codification which was opposed by Savigny and the German jurists?
9. In what respect does this system of codification differ from that which was recommended by Lord Bacon?
10. Is it a valid objection of the common law, that it must frequently be *ex post facto*?
11. What is the fundamental distinction between civil and criminal law?
12. What is the supposed advantage of legal fictions, and what is the objection to their use?

A.B. EXAMINATION FOR HONORS

27th September, 1854, 9 o'clock, a.m.

GRADUATE—Examiner, William E. Hearn, LL.D.

A.—I. Translate Herodotus, I., 50:

[illegible]

- What is the difficulty in the reading *ῥαῖς ἑμυρίατραις* in the last sentence, and how is it removed?
- Some suppose that two kinds of *ἑμυρίατραις* are meant, one of six, and the other of three palms. What is the objection to this explanation?
- How is the reign of Cressus connected with Grecian History?

2. Ιερήλλετο ἡ Κρήσις Ἰαυαρυνὸν τὸ χρηστότατον, ἡ σφατεῖσθαι ἐπὶ Πήρασι Κρήσις καὶ ἡ τισι σφατὴν δοῦναι ποσέλλου αἴαν. σ. 35.

- (a) How is the mood of a dependent verb determined?
(b) How do you account for the change of moods in the above passage?

3. πρὶν δὲ ἐκτελεσθῶσι ὁμοῖαν τὴν ἀρχαίαν, πάλιν ἀρχήσας ἐκ τοῖς ἑσπέραις, ἐπαυθὲν ἑσπᾶς ἀπὸ Κριίου ἀφαιρούμενος, ἵσταται αὖν καὶ οὗτος ἱματισμός. α. 76.

Kpaṣoṅ ḍḥ . . . ḍg rj̄ ḱarapaṭṭaṃ ḁac ḱrapāṭṭeṇa ḱeṇḁe ā Kāṇḁe, ḁrīḱḁeṇa ḱe nāc Ḭḁḁe, s. 77.

- How do you account for the difference of construction with the same verb in these passages?
- State the rules for the use of *επι* with the different nouns.
- What is the consequence of the refusal of the Ionians?

4. Aristotle (*Rhet.* III. 9) quotes the first sentence of Herodotus as follows:—'Ἡπόλεως βασιλεὺς ἦν Ἰερωνεὺς ἀδελφεὸς αὐτοῦ.'

- How does this quotation differ from the received text of Herodotus?
- How do you account for the difference?
- Trace the various meanings of *corvus*.

5. (a) What are the peculiar features of the Ionic dialect?
- (b) Why was it used by the Dorian Herodotus?
- (c) How does the Ionic of Herodotus differ from that of Homer?

6. What is your opinion of the historical value of the statements of Herodotus on the following subjects:

- (a) The circumstances attending the downfall of the Heraclid dynasty in Lydia.
(b) The conversation between Solon and Croesus.
(c) The intended execution and escape of Croesus.

B.—1. Translate THEOPHYLACT. I., 24, 25.

[illegible]

[illegible]

- Explain any syntactical peculiarities which you may observe in this passage.
- What was the difference between *domus*, and the Roman *Colonia*?
- Mention some other compounds of *esse*, both nouns and verbs, and point out their difference of meaning.

2. Describe the nature, time, manner, and effects of the change from the Athenian Democracy to the Athenian Empire.

3. What were the chief grounds of complaint of her subject-allies against Imperial Athens?
4. What was the immediate cause of the Peloponnesian war? Show how this occurrence was calculated to produce such a result.
5. Compare, and illustrate, the practice of Herodotus and of Thucydides in the introduction of speeches into their histories.
6. With what orators does Cicero rank Thucydides, and how does he characterize the class?

C.—1. Translate Plato, *Apologia*, c. 17.

[illegible]

- In the last sentence explain fully the phrase *ἡν οὐκ ἐκείνη*.
- Why is *μή* used with *ἵσταν*, and *εἰ* with *καί*?
- Point out and explain the peculiarity in the use of *καί*.

[illegible]

- Describe the constitution and divisions of the Athenian *Boule*.
- What was the circumstance alluded to?
- In what did the illegality consist?
- How did the Athenians subsequently show their sense of this illegality?
- Trace the meanings of *εὐχέλαια*. What is its poetical synonym?

3. Explain the following phrases :—

- (c) τὰ περίωρα φασίεργα. The word *periwora* occurs in Thucydides in a different sense?

A cognate form also occurs, in peculiar circumstances, in the Prometheus?

4. The condemnation of Socrates has been generally described as an act of unmixed atrocity, of which the Athenians immediately repented.

- (a) Was the crime of his death attended by any mitigating circumstances?
- (b) Did the Athenians subsequently repent of their conduct?

"To sage philosophy next lend thine ear
From heaven descended to the low-roof house
Of Socrates; see there his tenement
Who, well-inspired, the oracle pronounced
Wise of men: from whose mouth issued forth
Mellifluous streams, that watered all the schools
Of Academics, old and new, with those
Sumamed Peripatetics, and the sect
Epicurean, and the Stoic severe."

MILTON—*Paradise Regained*, IV., 273.

- Explain the assertion in the second line of this extract.
- State the circumstances which led to the response of the oracle, and trace its influence upon the character of Socrates.
- State what you know of the schools of philosophy alluded to.

- (d) How do you account for the form of the genitive in *ae*?
3. Is any, and if any, what part of the tale of Troy historical?
4. What was the limit of the Mythopoeic age in Greece, and what were the causes of its decline?
5. What are the principal points in dispute regarding the life and poems of Homer?
6. Trace briefly the influence of Homer upon the various forms of Grecian Literature?

B-1. Translate **Exercis Colones**, 117-150:

XOP. Ήρα, εἰς ἧρ' ἔτι καὶ πάλιν
ποῦ ποῦ ἀνέστης στήθεϊς ὡς κλέπτουσα,
ὡς κλέπτουσα διαφύσσουσα;
προσώπῳ, λυγρῶς αἰώνας,
προσέδραμα νεότητος,
πλάκωντος, πλάκωντος τοῦ ὀπρίσθου, αὐτῷ
ἐγχεύου; προσέβη γὰρ αὐτῷ
ὡς κατ' ἀσπληγὲς ἄσπληγ
ἐν τῷ ἀνεκμασάμενῳ κροῖον
ἔξ ἑλκυστικῆς βίτης
καὶ παραμαβίβασθ' αἰθέρου,
ἀφύουσα, ἀφύουσα τὸ πᾶν
ἐκείνου στήθεϊ φανταζῶν
κίονος· τὸ δὲ πᾶν τῷ ἥσαν
λόγος ἀείδει ἄλυσθ',
ἐν τῷ κλέπτουσα ποῦ ποῦ στήθεϊ
ἑλκυστικῆς βίτης
γίνεται ποῦ ποῦ ποῦ ποῦ.
ΟΙΔ. ὦς ἄνθρωπος ἔρως φανῇ γὰρ ἔρως
εἰς φανταζόμενον.
XOP. ἰὼ, ἰὼ,
ἄσπληγ ἄνθρωπος, ἄσπληγ ἄνθρωπος.
ΟΙΔ. μὴ γέ, ἄνθρωπος, προσέβη' ἀνθρώπου.
XOP. ὦς ἄνθρωπος, τοῦ ποῦ ὀπρίσθου;
ΟΙΔ. καὶ πάλιν πάλιν ἐκείνου στήθεϊ
πρόσβη, ὡς στήθεϊ ἄνθρωπος γάρου.
ἐκείνῳ γὰρ ὡς γὰρ ἐν τῷ ἀνθρώπῳ
ἔρως ἔρως ἔρως
καὶ ἔρως ἔρως ἔρως ἔρως.
XOP. ἔ, ἔ, ἀνθρώπος ἄνθρωπος
ἔρως καὶ ἔρως φανταζόμενον ἐκείνου
ἀνθρώπου γὰρ ἔρως ἔρως.

- (a) Is this choral song the Parados of the play? State the grounds of your opinion.
(b) What is the ordinary mode of punctuating and translating the last sentence?
(c) According to the punctuation given above, why is ἄφρατον in the genitive case?
(d) Give the derivations of ἀναισθησία and φασάμος.

2. Translate ORESTES, 982-995.

[illegible]

- (a) What philosophical doctrine is here alluded to, and who was its author?
 - (b) Socrates, in the *Apology*, notices in a remarkable manner the same theory?
 - (c) What are the legends to which this passage refers?
3. How was the myth of Prometheus altered by Æschylus? How was it subsequently modified?

4. Point out briefly the principal merits and defects of the Medes.

5. In what class of dramatic compositions, and for what reasons, would you place the *Alcestis*?

6. How did Euripides' treatment of mythical subjects differ from that of the other tragic poets? What were the causes of this difference?

C.—1. State the changes introduced into the tragic drama by Æschylus, Sophocles, and Euripides, respectively?

2. Horace (*Epis. ad Pis.*) says, "Neve minor, non sit quinto productior actu Fabula."

(a) Was this rule invariably observed?

(b) How are the number of acts in a Greek tragedy determined?

3. The same critic gives the following direction:—"Nec quarta loqui persona laboret."

(a) Was this rule invariably observed?

(b) Why was the number of actors limited?

4. Account for, or correct, the metrical difficulties in the following verses:—

(a) Ὑπελπίσας δὲ σῖκος μὲν ἀπὸ τοῦ χειρὶ παχέος.—*Il.* xx. 261.

(b) "Ἐσπερα δ' ἀπὸ τοῦ μύθου ἀπὸ τοῦ μύθου.—*Il.* xxii. 5.

(c) χαλκίονα βαχίονα ἐπερὶν χθονός.—*Prom.* V. 713.

ἀσπράχονα εὐφρατον μύθα μύθος.—*Il.* 1023.

What is the meaning of *βαχίονα*, and in what sense is the word used by Herodotus?

(d) μὲν δ' ἐκ τοῦ τοῦ αὐτοῦ ἀσπράχονα φασὶν

ἀσπράχονα τοῦ ἀσπράχονα ἕως αὐτοῦ.—*Ced.* Col. 371-72.

The words "*οὐδ' ἀσπράχονα*" had a peculiar reference at the commencement of the Peloponnesian war?

5. Quote parallels from the dramas you have read to the following passages:—

(a) And of all old mislikes they made fair weather.—*SPENSER, Fairy Queen*, B. iv., c. 11, st. 29.

(b) Your argus . . . do overpeer the petty traffickers,
As they fly by them with their woven wiles.—*SHAKESPEARE, Merchant of Venice*, act 1, sc. 1.

(c) Like an eagle in a dove-cot, I
Fluttered your Volscians in Corioli.—*CORIOLANUS*, act v., sc. v.

(d) The air, brushed with the kiss of rustling wings.—*MILTON, Paradise Lost*, l. 768.

(e) Yet shall thy grave with rising flowers be dress'd,
And the green earth lie lightly on thy breast.—*Pope, Elegy on an Unfortunate Lady*.

(f) Caught by the laughing tides that lave
These Edens of the eastern wave.—*BYRON, Giaour*.

6. Translate into Greek verse the following "Hymn to DIANA."—

Queen, and huntress, chaste and fair,

Now the sun is laid to sleep,

Seated in thy silver chair,

State in wonted manner keep.

Hesperus entreats thy light,

Goddess, excellently bright.

Earth, let not thy envious shade

Dare itself to interpose;

Cynthia's shining orb was made

Heaven to clear when day did close.

Bless us then with wished light,

Goddess, excellently bright.

Lay thy bow of pearl apart,

And thy crystal shining quiver;

Give unto the flying hart

Space to breathe, how short soever.

Thou that mak'st a day of night,

Goddess, excellently bright.

BEN JONSON.

28th September, 1854, 9 o'clock, a.m.

LATE.—*Examiner, Charles Parsons Reichel, B.D.*

(A.) HORACE.—*SATIRE*.

Translate:—

Quinte, puta, aut Publi,—gaudet personamine molles
Auricula—tibi me virtus tua fecit amicum;

Jus anceps novi, causas defendere possum;

Eripet quisvis oculos citius mihi, quam te

Contemptum causa nunc pauperet; hæc mea cura est,

Ne quid tu perdas, non sis jocosus. Ire domum atque

Pelliculum curare jube; si cognitor ipse:

Perusta atque oblata, seu rubra canicula findet

Infantes statuas, seu pingui tentus onasio
 Furios bibernas cana nive conspuet Alpes.
 Nonne vides—aliquis cubito stantem prope tangens
 Inquiet—ut patiens, ut amicus aptus, ut acer?
 Plures adstant thuii et cetera crescent.

(B) CLOERO. 1.—TUSCULAN QUESTIONS.

Num igitur dubitamus, sicut plerumque, (quanquam hoc quidem minime; persuadent enim Mathematici,) terram in medio mundo sitam ad universi coeli complexum quasi puncti instar obtinere, quod *clorper* illi vocant: eam porro esse naturam quatuor omnia gigantium corporum, ut quasi partita haberent inter se et divisa momenta: terrena et humida suapte natu et suo pondere ad pares angulos in terram et in mare ferantur: reliquæ duæ partes una ignea, altera animalis, ut illæ superiores in medium locum mundi gravitate ferantur et pondere, sic hæc sursum rectis lineis in celestem locum ambrolent, sive ipsæ natura superiora adpetentes, sive quod a gravioribus leviora natura repellantur? Quæ quam constant, perspicuum debet esse animas, quum e corpore excesserint, sive illi sunt animales id est spirabiles, sive ignei, sublimis ferri: si vero aut numerus quidam sit animas, (quod subtiliter magis quam dilucide dicitur,) aut quinta illa non nominata magis quam non intellecta natura, multo etiam integrioris ac purioris sunt, ut a terra longissime se elevent.

2.—DE ORATORE.

Quid? his paucis diebus nonne nobis in tribunali Q. Pompeii pretoris urbani familiaris nostri sedentibus homo ex numero disceptorum postulabat, ut illi unde peteretur, vetus atque usitata exceptio daretur *CUPIS PECUNIA NIS FUISSET?* quod petitoris causa comparatum esse non intellegebat, ut, si ille infestior probasset iudici ante petitam esse pecuniam quam esset coopta deberi, petitor, reversus quam peteret, ne exceptione excluderetur quod EA RES IN JUDICIUM ANTE VENISSET?

3.—IN VERREM ACCUSATIONIS LIBER I.

Nam de suborsitione illa Janiana iudicium nihil dico. Quid enim? Contra tabulas, quas tu protulisti, audeam dicere? Difficile est: non enim me tua solum et iudicium auctoritas, sed etiam annales aureus scribæ tui deterret. Non dicam id, quod probare difficile est: hoc dicam, quod ostendamus, multos ex te viros primarios audisse, quam diceret, ignosci tibi oportere, quod falsum codicem protuleris; nam, qua iuridica C. Jurinus confagavit, ea, nisi providisses, tibi ipsi tum pericundum fuisse. Hoc modo iste sibi et salutis sue prospicere didicit, referendo in tabulas et privatas et publicas, quod gestum non esset, tollendo quod esset, et semper aliquid demendo, mutando, interpolando. Eo enim usque progreditur, ut ne defensionem quidem malefactorum suorum sive aliis malefactoris reperire possit. Ejusmodi sortitionem homo amentissimus æterum quoque iudicium fore putavit per sodalem suum, Q. Cartium, iudicem questionis: cui nisi ego vi populi et hominum clamore atque convicio restituissem, ex hac decuria vestra, cuius mihi copiam quam largissime factam esse oportebat, crepta esset facultas eorum, quos, quum iste annueret, in eam consilium sine causa suborsitabat.

(C).—TERENCE —ADELPHI.

Sonnis. Proh suprema Jupiter,
 Minime miror, qui insanire occipiunt ex injuria.
 Domo me eripuit: verberavit: me invito abduxit meam:
 Homini misero plus quingentes colaphos intregit mihi.
 Ob malefacta hæc tantidem emptam postulat sibi tradier.
 Verum enim, quando bene promeruit, fiat; suum jus postulat.
 Age, jam cupio, modo si argentum reddat. Sed ego hoc hariolor.
 Ubi me dixero dare tanti, testes faciet illico,
 Vendidisse me; de argento, sonnium! mox; cras redi.
 Id quoque possum ferre, modo si reddat; quanquam injuriam 'st.
 Verum cogito id, quod res est; quando eam questum ocepervis
 Accipiunda et missitanda injuria adolescentium 'st.
 Sed nemo dabit: frustra hæc egomet mecum rationes puto.

(D).—JUVENAL.

Et quando uberius vitiorum copia? Quando
 Major avaritie patuit animus? Alas quando
 Hos animos? Neque enim loculis comitantibus itur
 Ad casum tabule, posita sed luditur arca.
 Prælia quanta illic dispendiore videbis
 Armigero! Simplexne furor sestertia centum
 Perdere, et horrendi tunicam non reddere servo?
 Quis totidem erexit villas, quia fereula septem
 Secreto comavit avas? Nunc sportula primo
 Limine parva sedet, turbæ rapienda togatæ.
 Ille tamen faciem prius inspicit, et trepidat ne
 Suppositus vestis ac falso nomine peccas;

Agnitas accipies. Jubet a praesone vocari
 Ipsos Trojugenas; nam vexant limes et ipsi
 Nobiscum. "Da praetori, da decede tribuno."
 Sed libertinus prior est. "Prior," inquit, "ego adsum.
 Cur timeam dubitare locum defendere, quamvis
 Natus ad Euphratem, molles quod in aure semestres
 Arguerint, licet ipse negem? Sed quinque talarum
 Quadringenta parant."

1. Comment generally on the passages you have translated, so as to prove that you fully understand them.
2. Explain the construction of the last sentence of B 1, and give the names of the respective authors of the several opinions concerning the nature of the mind which are therein detailed. What is the *quinta natura* mentioned?
3. Fill up the ellipse in the passage B 2, and explain it fully.
4. State the circumstance alluded to in B 3, in the words *subsortitio Jovianae*. What is meant in this extract by *judea quæstio*? State what you know about the *quæstiones perpetuæ*, their origin, and their subsequent development. Explain the attempted trick which Cicero exposes in the last sentence of this extract.
5. Give meaning and derivation of the words *foraculum*, *subsortitio*, *impluvium*, *postliminium*, *transenna*, *scalnus*, *decuria*, *consilium*, *dispensator*, *sportula*.
6. Give a list of the metres employed by Terence. In what metre is the above extract from his works? State the chief metrical peculiarities of Terence.

29th September, 1854, 2 o'clock, p.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

LIVY, BOOK IV.

Translate into English:—

Interim Romæ principes plebis, jam diu nequiquam imminentes spei majoris honoris, dum fors otium esset, cœtus indicere in domos tribunorum plebei. Ibi secreta consilia agitare: queri, se a plebe adeo spreto, ut, quam per tot annos tribuni militum consulari potestate crecentur, nulli usquam plebeio ad eam honorem aditus fuisset. Multum providisse suos majores, qui caverint, ne cui patricio plebei magistratus paterent; aut patricios habendos fuisse tribunos plebei: adeo se suis etiam sordere nec a plebe minus quam a patribus contenti. Alii purgare plebem, culpam in patres vertere: eorum ambitione artibusque fieri, ut obseptum plebi sit ad honorem iter. Si plebi respirare ah eorum mixtis precibus minisque liceat, memorem eam suorum instaram suffragia esse, et parte auxilio imperium quoque adscitum.

Give a brief statement of the original difference between the *patres* and the *plebes*, and of the successive steps by which it was virtually abolished.

Translate into Latin prose:—

If it shall please God to give me longer life, and moderate health, my intentions are to translate the whole *Iliad*: provided still that I meet with those encouragements from the public which may enable me to proceed in my undertaking with some cheerfulness. And this I dare assure the world beforehand, that I have found, by trial, Homer a more pleasing task than Virgil, though I say not the translation will be less laborious. For the Grecian is more according to my genius than the Latin poet. In the works of the two authors we may read their manners and natural inclinations, which are wholly different. Virgil was of a quiet, sedate temper: Homer was violent, impetuous, and full of fire. The chief talent of Virgil was propriety of thoughts, and ornament of words: Homer was rapid in his thoughts, and took all the liberties, both of numbers and of expressions, which his language, and the age in which he lived, allowed him. Homer's invention was more copious, Virgil's more confined: so that if Homer had not led the way, it was not in Virgil to have begun heroic poetry: for nothing can be more evident than that the Roman poem is but the second part of the *Iliad*: a continuation of the same story, and the persons already formed; the manners of *Æneas* are those of Hector superadded to those which Heaven gave him.

DRYDEN.

Translate into Latin Elegiac:—

Oh! true descendant of a patriot line,
 Who, while thou sharest their lustrum, lendest them thine,
 Vouchsafe this picture of thy soul to see;
 'Tis so far good as it resembles thee:
 The beauties to the original I owe;
 Which when I miss, my own defects I show.
 Nor think the kindred muses thy disgrace;
 A poet is not born in every race.
 Two of a house few ages can afford,
 One to perform, another to record.
 Praiseworthy actions are by thee embraced,
 And 'tis my praise to make thy praises last;
 For even when death dissolves our human frame,
 The soul returns to heaven from whence it came,
 Earth keeps the body, verse preserves the fame.

DAYDEN.

29th September, 1854, 9 o'clock, a.m.

ENGLISH LANGUAGE AND LITERATURE.—*Examiner, Rev. C. F. Darley, A.M.*

1. A moral, historical play, entitled "Kynge Johan," preceded Shakespeare's chronicle on that subject. Name the author, and assign a date.

2. "The thunder of my cannon shall be heard!"

"Have I not here the best cards for the game?"

The author takes a poetical license in each of these lines. Name it.

3. "Because he hath a half-face like my father;

"A half-faced groat, five hundred pounds a-year."

Explain these lines.

4. "If thou had'st been born

Deformed and crooked in the features of

The body as the manners of thy mind,

Moor-lipped, flat-nosed, dim-eyed, and beetle-browed,

With a dwarf's stature to a giant's waist,

And made thee shunned of human fellowship—

I had been blessed."

MASSENGER.

A parallel to the above verses is to be found in the play of King John. Cite the parallel.

5. Name the sources of the plot of "As you like it."

6. "I will weep for nothing, like Diana in the fountain."

Explain this passage.

7. Give the meanings of the following words and passages which occur in the two plays, "King John" and "As you like it":—"He hath a trick of Cour de Lion's face;" "My picked man of countries;" "Commodity;" "There are toys abroad;" "Importance;" "Expedient;" "Winking-gate;" "Diffidence;" "Roundure;" "Censured;" "Cased;" "Clippeth;" "Needs;" "Fight;" "Quintain;" "Priser;" "Battel;" "Mortley-fool;" "Parious;" "Perpend;" "Out of all whooping;" "Fancy;" "Speak sad brow and true maid;" "Point device;" "A material fool;" "Carlet;" "Peervish;" "Hurting;" "Oh, sir, we quarrel in print by the book."

8. Quote or indicate such portions of the two plays referred to as you may conceive to be amongst their best specimens, whether as regards dialogue, characters, action, or plot, and make your observations upon them.

9. Cowper, his works and times.

20th September, 1854, 2 o'clock, p.m.

ENGLISH LANGUAGE AND LITERATURE.—*Examiner, C. F. Darley, A.M.*

1. Sketch the subject of the 2nd book of "Paradise Lost."

2. State the geographical position of Ormus, and give an account of its trade in Milton's time.

3. "Showers on her kings barbaric pearl and gold."

This line is susceptible of two interpretations. What are they?

4. "As when a Gryphon through the wilderness,

With winged course o'er hill or moory dale,

Pursues the Aremaspeian."

Give some account of the Gryphons and the Aremaspeians.

5. Give the meaning of the following words:—"Burn-frere," "Welkin," "Ophiocelus," "Buxom," "Vana."

6. "Nor sometimes forget

Those other two equal'd with me in fate;

So were I equal'd with them in renown—

Blind Thamyras and blind Maeonides,

And Tiresias and Phineas, prophets old."

Give a brief notice of these several persons; explain Milton's statement that he was equal in fate with them, and interpret the meaning of the word "prophet," as here employed.

7. "The arch-ethyic sun, so far from us remote,

Produces, with terrestrial humour mix'd,

Here in the dark, so many precious things,

Of colour glorious and effect so rare."

A similar passage is to be found in the play of King John. Refer to it.

8. Quote or indicate such portions of the 2nd and 3rd books of "Paradise Lost" as you may conceive to be amongst the best specimens, and make your comments upon them.

9. Review Bacon as an essayist; criticise his mind, style, and characteristics, in that department of literature; compare his essays with those of the 18th and 19th centuries, and quote or indicate such passages as you may conceive to be amongst the best specimens, making, as you proceed, your comments upon them.

E

30th September, 1864, 9 o'clock a.m.

MODERN LANGUAGES—*Examiner, Professor Frings, Ph.D.*

GERMAN.—I.

1. How was the Anglo-Saxon converted into English?
2. From which of the German dialects sprang the English language?
3. When did the preponderance of the High-German over the Low-German become fully decided?
4. Wherein does the High-German principally differ from the Low-German?
5. What is the name of the great family from which all the European languages are derived?
6. Name the languages with which the German stands in relationship (not those which are derived from it), and state whether it be in the first, second, or third degree.
7. State the principal points in which the German idiom essentially differs from that of the other nations.
8. State the date and name of the most ancient lasting monument of the old German language.

II.

1. Who is Wolfgang von Eschenbach, and when did he live?
2. Give the dates of the birth and death of Schiller, and state any particulars with regard to his life you may recollect.
3. Which was his first dramatic production, and how old was he when he wrote it?
4. Which are considered to be his masterpieces?
5. How is the late cultivation of German literature to be accounted for?

III.

1. What is the difference between the two auxiliaries *Sein* and *Werden*? Give examples in the present and past tenses.
2. In what essential does the construction of a German phrase differ from that of an English one?
3. What effect has the beginning the phrase with a conjunction upon the construction?
4. Decline: "*Ein alter Soldat—Der kleine Matrose—Jenes grosse Haus*"—both in the singular and plural.
5. Name the prepositions which govern both the dative and accusative, and state the circumstances under which they take either the one or the other case.
6. On which of the syllables does the accent regularly fall in German?

IV.

Translate into German:—

If the history of England be over written by one who has the knowledge and the courage—and both qualities are equally requisite for the undertaking—the world would be more astonished than when reading the Roman annals by Niebuhr. Generally speaking, all the great events have been distorted, most of the important causes concealed, some of the principal characters never appear, and all who figure are so misunderstood and misrepresented, that the result is a complete mystification, and the perusal of the narrative about as profitable for an Englishman as reading the adventures of Peter Wilkins.

DISEASE.—*Sybil*.

V.

Translate into English:—

Die alten Deutschen hatten eine Schrift mit eigenen Buchstaben, die man Runen nannte. Man sieht auch bei Homer vieler Buchstaben das sie aus den verschiedensten Tinkturen, welche pflanzenwachsende kleine Schmetterlinge von abgeworfenen Insekt Hüllen, entstehen sieht. Unbewusst streift man aus den Schriften jeder Heiligkeit zu weisigen, indem man sich sehr einfachem dann leichten Runen verhält. Daher man mit der Runenschrift immer Jenseit verhielt. Da man auch bei Homer sieht, so werden die Runen in Stein gehauen oder in Holz geschnitten. Die Runen sind eine sehr alte Runen Schrift in dem Runen Runen. Nach jenseit hat man sich mit Runenschrift bezeichnen gewöhnt, welche man Runen Runen nennt. Hier bei gewöhnlichen Gebrauch aber werden die Runen in welches Holz geschnitten, verfertigt in Runenschrift, wobei man sich bei Runen Runen mit Runen.

MEER.—*Geschichte der Deutschen*.

VI.

Zeit wird nicht mehr, Zeit wird nicht mehr,
Denn wirs Geschick ist nur Glück;
Zeit wird nicht mehr, Zeit wird nicht mehr,
Denn wirs Geschick ist nur Glück.

Das weisse Zeit vertritt der Eiserne Lauf
Der feste Schritt, und sie wird sich erheben;
Der feste Schritt schließt keine Waffen auf
Schicksal der Zeit nicht die tiefen Augen der Welt.

Stehet fest im Arm der Eiserne Lauf,
Denn hier die Welt in Klagen sich ergötzt;
Stehet ein Schritt nicht nur die Klagen zu,
Und nur ein Schritt vermag sie aufzuheben.

GÖTTE.—*Wilhelm Meister*.

FRENCH.—I.

1. Compare the language spoken in France at the time of the troubadours with the present French, and state by what names they are distinguished from one another.
2. Which of the countries where Latin had been spoken came last to the possession of an independent language and literature?
3. During what period was the French language spoken by the superior classes of society in England?
4. What dialect was the general language of France in the ninth century?
5. To what dialect do we now give the exclusive name of French?
6. Which are among the most interesting productions in French of the Middle Age?

II.

1. How do you account for the same adjective in French being placed sometimes *before*, and sometimes *after* the noun? Give examples.
2. What class of verbs is regularly conjugated in English with the auxiliary *To Have*, while in French with *Être*?
3. What do the French mean by the word *Renaissance*, and how was the French literature affected by the *Renaissance*?
4. Mention the most remarkable French writers of the seventeenth century, and give us many particulars as you can respecting their works.
5. Draw a parallel between *Cornéille* and *Racine* as dramatic writers, showing how the difference may be accounted for.
6. What is the difference between *Vieux* and *Ancien*, between *Nouf* and *Nouveau*?
7. Enumerate the successive periods in the progress of the French language since its origin, giving the dates of their respective commencements.
8. Which of the numeral adjectives are flexible in French, and when?

III.

Translate into French:—

Our ancestors naturally looked with serious alarm on the growing power of France. This feeling, in itself perfectly reasonable, was mingled with other feelings less praiseworthy. France was our old enemy. It was against France that the most glorious battles recorded in our annals had been fought. The conquest of France had been twice effected by the Plantagenets. The loss of France had been long remembered as a great national disaster. The title of King of France was still borne by our sovereigns. The lilies of France still appeared, mingled with our own lions, on the shield of the House of Stuart. In the sixteenth century the dread inspired by Spain had superseded the animosity of which France had been anciently the object; but the dread inspired by Spain had given place to contemptuous compassion, and France was again regarded as our national foe.

MAULAY.—*History of England.*

IV.

Translate into English:—

Parler de La Fontaine n'est jamais un ennui même quand on serait bien sûr de n'y rien apporter de nouveau: c'est parler de l'expérience même, du résultat moral de la vie, du bon sens pratique, fin et profond, universel et divers, égayé de raillerie, animé de charme et d'imagination, corrigé encore et embellie par les meilleurs sentiments, consolé surtout par l'amitié; c'est parler enfin de toutes ces choses qu'on ne sent jamais mieux que lorsqu'on a mérité soi-même. Ce La Fontaine qu'on donne à lire aux enfants ne se goûte jamais si bien qu'après la quarantaine; c'est ce vieil vieux dont parle Voltaire et auquel il a comparé la poésie d'Horace: il gagne à vieillir, et, de même que chacun que chacun en pensant de l'âge sent mieux La Fontaine, de même aussi la littérature française, à mesure qu'elle avance et qu'elle se prolonge, semble lui accorder une plus belle place et le reconnaître plus grand.

SAINT-BEUVÉ.—*Causeries du Lundi.*

V.

Le Génie a besoin d'un peuple que sa flamme
Anime, éclaire, échauffe, embrase comme une âme,
Il lui faut tout un monde à régir en tyran;
Dès qu'il a pris son vol du haut de la falaise,
Pour que l'ouragan soit à l'aïse,
Il n'a pas trop de l'océan!

C'est là qu'il peut ouvrir ses ailes; là, qu'il grande
Sur un abîme large et sur une eau profonde;
C'est là qu'il peut bondir, géant capricieux,
Et tournoyer, debout dans l'orage qui tombe,
D'un pied s'appuyant sur la trombe,
Et d'un bras soutenant les cieux.

VICTOR HUGO.—*Odes.*

ITALIAN.—I.

1. State the origin of the Italian language.
2. To what century do we trace the earliest genuine Italian?
3. State the time when the Italian language in prose commenced to be used.

4. Who gave the first model of pure and elegant Italian prose?
5. When does the *Divine Commedia* seem to have been commenced?
6. Which of the Italian poets had most influence over the taste of his age, and who, more than any other, also gave stability to the Italian language?
7. What is the origin of the Italian definite and indefinite articles?
8. Who is considered the best Italian tragic writer, and when did he live?
9. State what you know of *Leone's* life and writings.
10. Describe the state of the Italian literature during the seventeenth and eighteenth centuries.

II.

1. When is the definite article used in Italian before the words "*Signor*" and "*Signora*," and when not?
2. When do the possessive pronouns refuse the definite article in Italian?
3. When are the personal pronouns attached to the verb so as to form one word with them? Is there no exception?
4. How do the Italians render the English word "*some*" before a noun, and how at the end of a phrase not followed by a noun, as, for example, "*I have some*?"
5. Is the past participle changeable in Italian—how and when?
6. Which are the prepositional words drawn together with the definite article in Italian, and when are both words drawn together so as to form but one?
7. In what essential does the construction of an Italian phrase differ from that of an English one?

III.

Translate into Italian:—

Does man require strength in order sincerely to humiliate himself, and to acknowledge himself a sinner? Is it not true that, in general, we pass our youth in vanity, and that, instead of using all our efforts to advance in the career of good, we spend a great part of it in degrading ourselves? There are exceptions; but I confess that they do not affect my humble self. It is no merit of mine to be discontented with myself. When one sees a torch giving forth more smoke than light, it does not require much candour to say that it does not burn well.—*SILVIO PELLICO—Le mie Prigioni.*

IV.

Translate into English:—

Io ho pensato un nuovo modo per allevare un mio figliuolo, e voglio comunicarlo a voi, perchè se vi pare che l'usanza possa essere di qualche utilità, pubblichiate la mia intenzione. L'ho mantenuto prima alle scuole tutto quel tempo che m'è paruto a proposito, perchè egli facesse quel profitto ch'io desiderava. Ma non crediate già ch'io gli avessi trovati maestri di retorica o d'altre arti che inseguino a favellare, le quali a noi uomini di privata condizione non giovano punto; e vengono di rado adoperate, quando non deliberiamo d'essere avvocati, o divenire predicatori. In quello scambio l'ho fatto ammaestrare in varie lingue; tanto egli favella spedatamente l'inglese, la francese, la tedesca e la greca, quella però che volgarmente si parla, non quella d'Omero nè di Platone.—*Boccaccio—Il Decamerone.*

V.

Voi ch'ascoltate in rime sparse il suono
Di quei sospiri ond'io nodriva il core
In sul mio primo giovanile arere,
Quand'era in parte altr'uom da quel ch'io sono.

Del vario stile in ch'io piango e ragiono,
Fra le vane speranze, e'l van dolore,
Ove sia chi per prova intenda amore,
Spero trovar pietà non che perdono!

Ma ben vegg'or, sì come al popol tutto
Favola fui gran tempo: onde sovente
Di me medesimo meco mi vergogno

E del mio vaneggiar vergogna d'el frutto
E'l pentirsi, e'l conoscer chiaramente
Che quanto piace al mondo è breve sogno.

PETRARCHA—Sonetti.

30th September, 1854, 2 o'clock, p.m.

CELTIC LANGUAGES.—*Examiner, Professor Mahony.*

1. Has the adoption of the term "*Indo-European*," instead of "*Indo-Germanic*," any reference to the Celtic language?
2. State the principal reasons for concluding that the Celtic languages belong to the Indo-European stock.
3. Enumerate the several Celtic dialects, under the general heads of (i.) British, or Cambrian, and (ii.) Gaelic, or Erse; and point out any which may have become extinct.

1. What classes of nouns, in Irish, are masculine, and what are feminine?
2. In the declension of nouns, upon what does the formation of the cases generally depend?
3. Decline the noun *breitheamh*, a "judge," with the adjective *umail*, "noble;" and *oile*, "an island," with the adjective *ard*, "high;" also the nouns *riaghail*, "a rule," and *deoch*, "a drink," with, and without, the article.
4. How many declensions of nouns adjective, and how is each declension determined?
5. State all the demonstrative and indefinite pronouns, with their significations in English, and whether any of them change according to number, gender, or case.
6. How is the conditional past tense formed, in the active and in the passive voice?
7. Give the several irregular or defective verbs; in the present indicative, first person singular, and in the infinitive, active and passive.
8. Conjugate, in the active and passive voices, (i.) the indicative mood, future tense, of the verb *deirim*, "I hear;" (ii.) the conditional past of *deirim*, "I say;" (iii.) the simple past of *chloim*, "I hear;" (iv.) the conditional mood of *deirim*, "I do;" (v.) the imperative of *chloim*, "I see;" and (vi.) the subjunctive mood, future tense, of *faghaim*, "I find."
9. What verbs are formed, by derivation, from other parts of speech.
10. In compound terms, what parts of speech are generally compounded? What member of the compound qualifies the other? And when is the hyphen to be used or omitted between such words?
11. How is the concord of the adjective and substantive influenced by their relative positions?
12. Do all pronouns agree alike with their antecedents, and how is the pronoun put, when the antecedent is a sentence, or a noun of multitude?

Translate the following extracts:—

1. Dulluid iarsúidhe Patric cu Fíao, agus dúrla a lóca ló, agus eutsear agus farruim a forrigh nand, agus a dopart Chéimthann in port sin du Patric, ar ha Patric dubert haithis du Chéimthann; agus i cilebá adraacht Crimthann.—*Book of Armagh*.

2. O Lochan nua na n-éach
ro las gíolla co h-Oileach,
dia radh ri Dúh n-daire n-dáil,
má do chur is in lachair.

Eirigh suas a Dubhdóire,
damh sonn do chum do thoighs,
friotail eoch n-dúine díbh
mar do friotailte airdrigh.

Ahár frim cía damh tice ann,
ind Oileach reirech Rígheann?
innis dam a ghille ghú,
co n-déanar i friotailimh.

Ríoghaidhe Eireann i ngeimhkhkh
maile re Mac Neill neimhnigh,
deich eód laoch i n-gaisceadh ghraim,
do Chenel Eoghain egh fúmd.

"The Circuit of Ireland."

3. Robert mac Stephen, agus Ricard mac Gillebert, i. Iarla ó Strangboun do thocht a Sozailh in Eirid go sligh ndrimbe, agus go molar Ridreaddh agus saighdeowkh hí soebreide Mac Murchadha do choemamh Leigheas éó, agus do chombunidhrendh Gacédhéal Eireann archena, agus do rad mac Murchadha a ingheas do Iarla o Strangboun ar tocht ina shochradhe. Ro gimbhast Loch Garman, agus do dheachtar ar éigis ar Port Léirece, agus ro ghabhast mac Gillemaire armad an dúin, agus Ua Faolain tighearna na n Déisi, agus a mhao, agus ro mbarbhast secht eód amsaidhe.—*Annals of the Four Masters*—A.D. 1170.

4. Nach i so an cluairt eashadhach, do bgnidh mé th'eais me shbhushail!
Air saigh me charaid, 's me fíleadh na n déar go h'úr;
Ni h-b-fuir mé agan mo tháithneamh, a's radharc mo sháil;
Acht cruidh-leac dhaingean, a's leabhadh de'n g-e-r' bháid cimbhang.
Ni tréan ne a' bhhoirt, 's ni mhéasain gur ois náire,
Le cáidhean bhocht soctithe me, ó chaillens mo chéil náire,
Ní pín níl peannaid, níl galair choimh cruidh cruidhe,
Le h-éag na g-craid, nó scapadh na g-cómpánach.

CAROLAN—*Lament for M. Cobe*.

To be re-translated into Irish:—

1. Edward Bruce, the destroyer of the people of Ireland, in general, both English and Irish, was slain by the English, through dint of battle and bravery, at Dundalk. And no achievement had been performed in Ireland, for a long time before, from which greater benefit had accrued to the country than from this; for, during the three and a-half years

that this Edward spent in it, a universal famine prevailed to such a degree that men were wont to devour one another.—*Annals of the Four Masters*—A.D. 1318.

2. Art MacMurrough, Lord of Leinster—a man who had defended his own province against the English and Irish from his sixteenth to his sixtieth year—a man full of hospitality, knowledge, and chivalry—a man full of prosperity and royalty—the enricher of churches and monasteries, by his alms and offerings—died, a week after Christmas, after having been forty-two years in the lordship of Leinster.—*Ibid.*, A.D. 1417.

3. The Earl of Desmond, found an opportunity of making his escape, on the festival of St. Patrick following, against the will of the council, and without their knowledge or notice; and he arrived, by three nights' walking, accompanied by a few, in the very midst of the Geraldines.—*Ibid.*, A.D. 1573.

2nd October, 1854, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Investigate the numerical value of the Napierian base, namely, $e = 2.7182818$.
2. Calculate the sum which must have been originally paid down in order to receive £500 at the end of 4 years, allowing 5 per cent. per annum compound interest.
3. Investigate algebraically the times in which any sum of money will double itself, at any given rate of interest, simple and compound, respectively.
4. Find the sum of 10 terms of the series

$$1, 5, 9, 13, \&c.$$

5. A can perform a piece of work in 12 days. B can perform the same in 9; calculate the time in which they could finish it, working together.
6. If $a, b, c, \&c.$, be the roots of the equation—

$$x^n + p x^{n-1} + q x^{n-2} + \dots + s x + t = 0,$$

express the symmetric function $\Sigma \frac{1}{a}$ in terms of the coefficients.

7. Find the logarithm of 6732375, the logarithm of 67323 being 4.8281635, and the logarithm of 67324 being 4.8281699.
8. If two events be independent of each other, and the probability that one will happen be $\frac{1}{m}$, and the probability that the other will happen be $\frac{1}{n}$, calculate the probability that either will happen and the other fail.
9. Transform—

$$D_r V + D_\theta V = 0$$

into a function of r and θ , where

$$x = r \cos \theta, y = r \sin \theta.$$

10. Express the area of the triangle formed by joining three consecutive points on a plane curve, in rectangular and polar co-ordinates, respectively.

2nd October, 1854, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. The path described by a body being any conic section, show that Newton's fundamental principle gives the law of the centripetal force generally, the centre of force being at one focus.
2. The velocity of a comet in its path, is everywhere equal to the velocity of a body revolving in a circle at half the distance.
3. Given base, difference of sides, and locus of vertex a right line, describe the triangle by elementary geometry.
4. Given two circles and a right line, draw a line parallel to the given one, so that the part intercepted upon it by the circumferences of the two circles may be a maximum.
5. A system of circles being described so as to touch one circle and cut another orthogonally, find its envelope.
6. Investigate the equation of the reciprocal of a conic with regard to any point $(x' y')$.
7. Given the equation of a curve with regard to the origin of co-ordinates, find the equation of its reciprocal with regard to any point.
8. Find by spherical trigonometry, the locus of those stars whose declination at a given epoch is unaltered by the precession of the equinoxes.
9. Integrate the equation—

$$D y - a y = x^n.$$

10. Integrate the equation—

$$x D^2 y + D y + y = 0.$$

11. Investigate a general method of solving all linear differential equations of the type—

$$F(x D) y + M x^m y = X.$$

12. Find—

$$\int e^{-x} \cdot \cos r x dx.$$

27th September, 1854, 9 o'clock, a.m.

MECHANICS AND HYDROSTATIC.—*Examiner, George F. Shaw, F.T.C.D.*

1. Write down the analytical expressions for the conditions of equilibrium of a rigid body acted on by a number of forces, $P, P', P'', \&c.$, under the following circumstances :—

- (a) When the body is entirely free.
- (b) When it revolves round a fixed point.
- (c) When two of its points are fixed.

2. How should the foregoing equations be simplified when the forces $P, P', \&c.$,

- (a) Are parallel to each other;
- (b) Lie in the same plane;
- (c) Are both parallel and lying in the same plane?

3. (a) What is the necessary and sufficient condition to be satisfied in order that the forces P, P', P'' may produce a single resultant; and (b) if there exist such a resultant, what are its equations?

4. (a) Let the axes of an ellipse be 20 and 16 inches respectively. Bisect it by a right line parallel to the minor axis, and 3 inches distant from it, and round this right line, as an axis, let the smaller of the two portions into which the ellipse has been divided rotate through an angle of 150° . Calculate the volume of the solid thus generated.

(b) Let the axis of rotation, instead of being a fixed line, approach the minor axis with a uniform motion, so as to coincide with it by the time that the angle of revolution is accomplished; show that the solution depends on the same principle as before, but demands an integration instead of a multiplication.

5. A number of points lie in a vertical plane, and from each of them a ball, supposed perfectly elastic, is dropped on a plane cutting this at right angles, and inclined at an angle θ to the horizon. (a) Show that each ball describes a parabola. (b) Find the locus of the points from which all these balls must drop, the trajectories of which return to the inclined plane at one and the same point.

6. Conceive a diametral tunnel direct through the earth, and a heavy body dropped into it. Show that the movements of this body synchronize with the oscillations of a simple pendulum hung at the earth's surface, and extending to its centre; and also with the revolutions of a satellite close to the earth's surface.

7. A wall 12 feet high and 8 feet thick sustains the pressure of water to a height of 10 feet, and supports, besides, along each foot of the summit near the water, a thrust of 4 cwt. inclined to the vertical at an angle of 35° . Find the resultant of the pressures on the wall, and whether the latter can resist it.

(Note.—H₂O, 32° = 57.3, the materials of the wall weigh 130 lbs. per cubic foot, and water weighs 62.5 lbs. per cubic foot.)

8. Let the weight of a block of marble 6 inches long, 4 broad, and 3 thick, be assumed as a unit of force, let 12 feet per second be taken as a unit of velocity; what is the unit of mass corresponding to these two data?

(The mass is to be expressed in cubic inches of water of the same quality as in last question; and the specific gravity of the marble is 2.65.)

9. (a) Write down and prove the fundamental equation by which, in the theory of central forces, the law of force can be deduced from the form of the orbit, or, vice versa, the orbit from the law of force.

(b) By means of this equation prove that a central force, varying directly as the distance, causes a body to move in a central conic, and

(c) Show how to determine the constants of this curve by means of the initial circumstances of the body's motion.

10. The mere consideration of centrifugal force combined with that of Kepler's first law, will suffice to prove that the law of force in a focal conic must necessarily be the inverse square of the distance.

11. From the analytic definition of the eccentric anomaly, u , namely,

$$r = a(1 + e \cos u)$$

derive its geometrical signification; and from this latter prove the two equations which connect the true and the mean with the eccentric anomaly.

12. Indicate the principal steps of Kepler's great problem—namely, the expressing the true position of a planet in terms of the mean.

27th September, 1854, 2 o'clock, p.m.

ASTRONOMY AND OPTICS.—*Examiner, George F. Shaw, F.T.C.D.*

1. (a) Explain the phrases, mean solar time, apparent time, and equation of time; and (b) show that that part of the equation of time which is independent of the inequality of the sun's angular motion is a maximum when

$$\cos \text{Sun's Decline} = \cos \text{Obliquity of Ecliptic}.$$

2. (a) The N. Polar distance of the sun being 74° , find at what hour he will attain a zenith distance of 30° to a spectator whose co-latitude is 64° N.

(Note.— $\sin. 74^\circ = .961$	$\sin. 3^\circ = .05$
$\sin. 30^\circ = .5$	$\sin. 67^\circ = .92$
$\sin. 64^\circ = .9$	$\sin. 32^\circ = .53$

In the solution use the formula most suited to the value of the resulting hour angle.)

3. Point out the complication this problem undergoes in the case of the moon, and the principal steps to its solution.

4. Explain the lunar method of taking the longitude at sea; and show that the effects of parallax and refraction will be corrected by the formula—

$\cos. \text{true ang. dist.} = K \cos. \text{appart. ang. dist.} = \cos. \text{diff. of true alt.} \times K \cos. \text{diff. of appart. alt.}$

Where $K = \frac{\cos. \text{true alt. of moon} \times \cos. \text{true alt. of star.}}{\cos. \text{appart. alt. of moon} \times \cos. \text{appart. alt. of star.}}$

5. Given from the tables the latitude of the moon at opposition, the time of opposition, the moon's horizontal parallax, and the diameters of sun and moon; compute from these data the times of beginning and ending of a lunar eclipse.

6. A sphere 4 inches in diameter is hung before a convex mirror of 1 foot radius, at distance of 16 inches. Find the position and apparent magnitude of the image.

7. Find the deviation produced by a prism of flint spar of $P^\circ 20$ angle.

(Note.—The refractive index of flint spar is 1.634.)

8. Show that every lens has a centre, and determine the position of it in a meniscus, the radii of which are 11 and 8 inches.

9. Define the three fields of view, mean, extreme, and bright, in a common astronomical telescope.

10. (a) What is meant by the *dispersive power* of a given substance?

(b) Given the dispersive power of crown glass = .016, find the dispersion produced by a convex lens of this material, the aperture being 1 inch and the focal length 3.5 feet.

28th September, 1854, 9 o'clock, a.m.

CHEMISTRY AND CHEMICAL PHYSICS.—*Examiner, Edward Bonaldi, Ph.D.*

HEAT.

1. What rule relating to the quantity of heat evolved during combustion is known as Welter's law? How and by whom has its accuracy been disproved?

2. Describe the process for ascertaining the density of vapours.

3. What general law has been announced by Andrews, with reference to the heat evolved when bases displace the water of hydrated acids?

4. State the principal facts elicited by Melloni's experiments on Diathermancy.

ELECTRICITY.

1. Explain the construction and theory of the Leyden jar.

2. When two bodies containing equal quantities of electricity are placed, at one time, 4 inches, and at another, 3 inches apart, how would you express the relative degrees of force with which they attract or repel each other at the different distances?

3. How do you explain the fact, that the action of an electric current upon the human frame is greatly augmented by increasing the number of plates in the voltaic battery, while the phenomena of incandescence in metallic wires are but very little affected by such increase?

N.B.—Ohm's formula for a single cell is $S = \frac{e}{\lambda + l}$

in which S indicates the effective force of the current.

e the electromotive force.

λ the resistance offered to the current in the cell.

l the resistance of the conducting wire or other body included in the circuit.

4. How long must a wire of 0.2 line in thickness be in order to offer the same amount of resistance to the passage of an electric current, as a wire of the same metal which is 40 feet long and 0.5 line thick?

CRYSTALLOGRAPHY.

1. Define the lengths and relations of the axes in the right prismatic system of crystals.

2. What form results from the excessive growth of the alternate planes of the octahedron, and what is the general name given to such crystalline forms?

3. Describe the compound forms belonging (1) to the square-prismatic, and (2) to the rhombohedral systems, respectively, the notation of the faces in which are thus expressed—

$$(1) \begin{cases} a : a : c \\ a : a : c \end{cases}$$

$$(2) \begin{cases} a : a : c \\ a : a : c \end{cases}$$

4. Of what primary forms alone can the compound forms of any system of crystals be made up?

28th September, 1854, 2 o'clock, p.m.

CHEMISTRY.—*Examiner, Edmund Ronalds, Ph.D.*

1. What relation has been observed between the atomic weights and specific heats of certain chemical substances?

2. When the atomic weight of a simple substance cannot be easily determined in a direct manner, or inferred from the density of its vapour or its specific heat, by what process of reasoning may it often be deduced from the isomorphous relations and known composition of some compound?

3. What is understood by the term polybasic acid? Give some instances of the salts of these acids.

4. Explain the nature of the reaction which ensues when sulphuretted hydrogen is added to a salt of the peroxide of iron.

5. How would you distinguish those metallic oxides from each other which are precipitated by sulphuretted hydrogen from acid, neutral and alkaline solutions?

6. Describe the process for separating silver from poor ores by amalgamation.

7. In the manufacture of sulphuric acid in the leaden chambers what means have been employed to prevent the constant loss of nitrogenous compounds?

8. How much pure carbonate of potash should be obtained, according to theory, by incinerating 1 lb. of cream of tartar?

N.B.—Dry Tartaric Acid = $C_4 H_4 O_6$

Equiv. of Carbon = 6

" " Hydrogen = 1

" " Oxygen = 8

9. The mineral aluminite, according to Stromeyer's analysis, contains in 100 parts—

Alumina, . . . 29.81

Sulphuric Acid, . . 23.10

Water, . . . 46.99

100.00

What chemical formula will express its constitution?

N.B.—Equiv. of Aluminium, 13.69

" " Sulphur, 16

10. In preparing spirit from grain, or from the potato, a volatile substance accompanies the alcohol, called technically by distillers, "feints;" what is the composition of the substance, to which class of chemical bodies does it belong, and how is it separated from the raw spirit?

11. Give an illustration of an homologous series of organic compounds, stating the grounds why it is so called?

12. What various products are obtained from the dry distillation of wood, and how are the more important separated from each other?

29th September, 1854, 9 o'clock, a.m.

CHEMICAL PHYSICS.—*Examiner, George F. Shaw, F.T.C.D.*

1. How is the refractive power of a given fluid ascertained experimentally?

2. This being known, how is the dispersive power deduced?

3. Explain the action of the safety tube used in various chemical processes.

4. With a balance, weights, and Nicholson's hydrometer ungraduated, show how to take the specific gravities of fluids.

5. Describe the weight thermometer, and its use; also show how its constants are determined.

6. State the use of each component part of the common electrical machine, avoiding in your statement all hypotheses concerning the existence of one or more electrical fluids.

7. Describe some of the experiments which illustrate the mutual actions of magnets and electric currents; and show that these can be explained by the actions of currents on each other.

ZOOLOGY.—*Examiner, Fr. Dickie.*

1. State the manner of life of the Cetacea and Phocidae, and describe their peculiarities of organization.

2. State and define the classes and orders to which the following belong, viz.:—Ursus, Mus, Ornithorynchus, Falco, Rana, and Perca.

3. State and define the classes and orders to which the following belong, viz.:—Mytilus, Helix, Scorpio, Aranea, Vespa, Formica.

4. State the general distribution of the Quadrumana, Edentata, Camelidae, and Struthionidae.

BOTANY.

1. Describe the order of development of the different parts of the stamen, and institute a comparison between such and the leaf.

2. Give a summary of the opinions entertained respecting the functions of leaves.

F

3. Why are certain plants called *pleurohizem*, and *notorhizem*, *phyllolobem*, and *sarcobolobem*? Give examples, and state their respective natural orders.

4. State the relative decrease or increase of the following natural orders, to or from poles and equator, viz.:—Cruciferae, Labiatae, Compositae, Euphorbiaceae, and Gramineae.

29th September, 1854, 2 o'clock, p.m.

ELEMENTS OF GEOLOGY AND PHYSICAL GEOGRAPHY.—*Examiner, Frederick McCoy, F.G.S.L., Hon. F.C.P.S.*

1. How are rocks classified, and how are the relative ages of the different formations, as well as of igneous rocks, determined?

2. Give some examples illustrative of metamorphic action amongst rock masses, and its causes.

3. Illustrate, by a diagram, the meaning of the terms *conformable* and *unconformable stratification*, *fault*, *dyke*, and *asticalinal line*.

4. What rocks are marked by *Hippurites*?

5. Describe in order, from the surface to the centre, the various structures developed in a large mass of basalt cooled slowly from igneous fusion.

6. Does most rain fall on the E. or W. sides of continents in the temperate zone, and is the case different in the tropics?

7. Why is there a tendency to N.E. winds in the northern hemisphere, and to S.E. ones in the southern hemisphere, and in what latitude have you a nearly uniform E. wind?

8. Where, in the northern hemisphere, are the two supposed poles of cold situated?

9. State clearly the nature of a "wave of translation," and the difference between wave motion and water motion.

30th September, 1854, 9 o'clock, a.m.

LOGIC.—*Examiner, Rev. James McCosh, LL.D.*

1. State the doctrine of the nominalists, as distinguished from that of the realists and conceptualists. Name the more famous nominalists among the schoolmen, and in modern times, especially among British philosophers.

2. State, and illustrate, what is meant by the extension, and what by the comprehension (intension) of a notion or term.

3. "A negro has a soul." State the quantity and quality of this proposition, and interpret it both in regard to extension and comprehension.

4. The following is one of the examples for exercise in Whately's Logic:—"All the most bitter persecutions have been religious persecutions. Among the most bitter persecutions were those which occurred in France during the Revolution; therefore they must have been religious persecutions."

5. What is the precise nature of hypotheticals? Can they be treated as categorical?

6. What is Mr. J. S. Mill's estimate of the functions and value of the syllogism? What admissions does he make in its favour? What does he deny regarding it? Wherein does he differ from Archbishop Whately? Have you any remarks to make on Mill's view?

7. What is the difference between the inquiry into "laws of phenomena" and "causes"? Have physical investigators the same end in view when they are seeking to classify as when they are searching for the causes of events?

8. Have "classes" a reality in certain departments of nature, or are they only in the mind of the observer? Comment on Whewell's doctrine of the "colligation" of facts by conceptions, and of the need in all induction of ideas being superinduced upon facts. "The facts," he says, "are known, but they are insulated and unconnected till the discoverer supplies, from his own stores, a principle of connexion. The pearls are there, but they will not hang together till some one provides a string."

9. Explain and illustrate what Bacon means by "*prænegativæ instantiationem*."

10. State and illustrate the nature and the peculiar advantages of the joint method of agreement and difference of Mr. J. S. Mill.

11. What is the nature of induction and of deduction? Point out the several peculiarities and advantages of each, and explain in what departments the one, and in what departments the other, may be most profitably employed.

12. What is Locke's, what is Stewart's, what is Whewell's, and what Mill's view as to the necessity and value of definitions and axioms in mathematical demonstrations?

30th September, 1854, 2 o'clock, p.m.

METAPHYSICS.—*Examiner, Rev. James McCosh, LL.D.*

1. What was the view taken by the Epicureans, and what by the Stoics, of pleasure and pain, of virtue and vice?

2. To what sect of philosophy did Cicero belong? What is his usual mode of treating the topics discussed by him? Illustrate this by any philosophic treatise of his which you may have read.

3. "Cogito ergo sum!" How does Descartes seem to have meant this to be understood? Is it reasoning? If so, can it be stated in syllogistic form? Can you state Kant's criticism of it? What is Cousin's interpretation and defence of it?

4. What hypotheses were introduced by Malebranche and Leibnitz to explain the relation

of mind and body? Did Descartes give any indications of his opinions on this subject? What view do you take of these discussions?

5. What is the doctrine of Locke in regard to substance? Can you give any account of the controversy between him and Stillingfleet on this subject? What is the doctrine of Kant in regard to substance?

6. How does the mind, according to Locke, attain its ideas of moral good and evil? What is Butler's doctrine in regard to the nature and office of the conscience?

7. Is the Sensational School of France justified in claiming Locke as its founder? Wherein did Condillac follow, and wherein did he depart from, the doctrines of Locke?

8. What is the precise doctrine of Berkeley as to ideas, and the non-existence of matter as a substance?

9. What are the primary and secondary qualities of matter, according to Locke?—what according to Reid? What is Sir W. Hamilton's classification of the qualities of matter? What value is to be attached to these distinctions?

10. What is Hume's doctrine in regard to cause and effect? How did he turn it to a sceptical purpose? Is his doctrine on this subject sceptical in itself? Wherein does Brown's doctrine differ from Hume's? Can Brown's doctrine be charged with a sceptical tendency?

11. Both Reid and Kant set themselves against the scepticism of Hume: how did they severally meet him? Show wherein their methods and principles agreed, and wherein they differed.

12. State, in a general way, what additions to Reid's philosophy of common sense, and what professed corrections of it, have been made by Sir W. Hamilton. Under what conditions, cautions, or limitations, is the argument from common sense to be used, according to Hamilton?

2nd October, 1854, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, William Neilson Hancock, LL.D.*

1. Explain the different significations of the word Law.

2. Clearly marks the distinction between Ethics and Jurisprudence.

3. In describing the object of his *Treatise on Universal Justice*, Lord Bacon has given an accurate description of the science of Jurisprudence.

4. What jurisdiction in the English courts corresponds with the *Prætorian jurisdiction* recommended by Lord Bacon, and in what respect does the correspondence fail?

5. Is there any court at the present day which exercises a jurisdiction corresponding to the *censorial jurisdictions* recommended by Lord Bacon?

6. What subjects does Sir James Mackintosh include under the Law of Nature and Nations?

7. On what basis does Mackintosh rest the rights of acquisition, alienation, and transmission of property?

8. What quality of the duties which law enforces was the doctrine of a social compact apparently invented to account for, which can, nevertheless, according to Mackintosh, be proved by other means?

9. The mode in which law reforms are usually extended from England to Ireland has a considerable effect in increasing the complication of Irish law.

10. If the tendency of codification be to make the laws more certain, what effect would such a change have on the nature and extent of the business of the legal professions?

11. What is the nature and extent of the change in the law involved in the parliamentary title conferred by the Incumbered Estates Commissioners; what are the chief beneficial effects of this change; and in what way can these benefits be extended to estates that are not incumbered?

12. Give a short outline of the progress of Jurisprudence to the time of Lord Bacon. Review his writings on the science, and show the effects they were calculated to produce.

2nd October, 1854, 2 o'clock, p.m.

POLITICAL ECONOMY.—*Examiner, William Neilson Hancock, LL.D.*

1. To what extent is the science of Political Economy indebted to the writings of Quesnay and the early French Economists, and what is the principal error of their system?

2. It was one of the principles of the mercantile system, that the more the exchange was against any country the more the balance of trade became necessarily against it. Explain the terms "the mercantile system," "the exchange," and "the balance of trade," and prove or disprove the above proposition.

3. Did Adam Smith consider peace principles as an essential part of Political Economy?

4. State the rules which Adam Smith laid down as to the nature of the business which can be successfully carried on by a Joint Stock Company, and give illustrations of the different rules.

5. What is the nature of the *Metayer* system of cultivating land, and what are the advantages and disadvantages connected with it?

6. The gross profits of any trade may be divided into three distinct parts, the amount of which is determined by different laws. State the principle of division, and thence explain the fact stated by Mr. Mill, that the same article may have two prices at the same time and in the same place.

7. Define the words "price," "market price," and "mint price;" and show from thence

27th September, 1854, 2 o'clock, p.m.

GRADUATE—Examiner, William E. Hearn, LL.B.

Translate, with short notes, the following passages:—

1. Tureybanek, R. IV, a. 26

[illegible]

2. АНДСТОРИАКЕС, КНИЖИТЕ, 1329-1390.

[illegible]

Pythia, quæ tripode ex Phœbæ lauroque profatur;
 Principis tamen in rerum facere ruinas,
 Et graviter magni magnos cedere ibi ossi:
 Primum, quod motus, exempto rebus inani,
 Constituant, et res molles rursusque relinquunt,
 Aër, solem, ignem, terras, animalia, fruges;
 Nec tamen admisceant in eorum corpus inane;
 Deinde, quod omnino finem non esse secundis
 Corporibus faciant, neque paucum stare fragori;
 Nec prorsum in rebus minimum consistere quidquam;
 Quam videamus id extremum cuiusque cacumen
 Esse, quod ad sensus nostros minimum esse videtur;
 Coniungere ut possis ex hoc, quod cernere non quis,
 Extremum quod habent, minimum consistere rebus.

(D).—JUVENAL.

Atticus eximie si coquat, latus habetur;
 Si Rutilus, demona. Quid eam majore cachinno
 Excipitur vulgi, quam pauper Apicius? Omnis
 Convictus, thermæ, stationes, omne theatrum
 De Rutilo. Nam dum valida ac juvenalia membra
 Sufficiunt galeæ dumque ardent sanguine, fortis
 Non cogente quidem, sed uce prolubante tribuno,
 Scripturus leges et regia verba laetatur.
 Multos porro vides, quos sæpe clonus ad ipsum
 Creditor introitum solet expectare macelli,
 Et quibus in solo vivendi causa palato est.
 Egregius coquat meliusque miscerrimus horum
 Et cilio cassus jam perlescente ruina.
 Interea gustus clementia per omnia quærant,
 Nunquam animo pretiis obstantibus; interius si
 Attendas, magis illa juvant, quæ plura emanant.
 Ergo haud difficile est periculum incescere summam
 Lausibus oppositis vel nostris imagine fracta,
 Et quadringentis nummis condire gulorum
 Picille: sic veniant ad miscellaneos Iuli.

1. Comment briefly on the passages you have translated, so as to show that you fully understand them.
2. Give a succinct statement of the doctrines of the Stoic and Epicurean systems of philosophy, and notice the chief defects in them and in the reasoning on which they are founded respectively.
3. Give a succinct account of the several steps by which the *plébs* was brought to an equality with the *populus*, accompanied by dates.
4. Explain the nature of a *lex agraria*, according to the views of Savigny and Niebuhr.
5. Give an account, accompanied by dates, of the successive *leges de Repetundis*: of the *lex Voconia*, and of the *lex Papia Poppæa*.
6. Characterize briefly the respective styles of the Satires of Horace, Persius, and Juvenal; mentioning those circumstances of their times which contributed to form or modify their manner, and supporting your conclusions by apposite quotations.

28th September, 1854, 2 o'clock, p.m.

LATIN.—Examiner, Charles Parsons Ritchel, B.D.

Translate into English:—

TACITUS.—HISTORIES, BOOK V.

Terra finisque, qua ad orientem vergunt, Arabia terminantur; a meridie Ægyptus ob-
 jacet; ab occasu Phœnicæ et mare; septentrionem a latere Syriæ longe prospectant.
 Corpora hominum salubria et feracitas laborum. Rari imbres, ubi sollem. Fruges nostrum
 ad morem, præterque eas balsamum et palmæ. Palmæ proceritas et decor. Balsamum
 modica arbor; ut quisque ramus intumuit, si vim ferri adhibeas, pavent venæ, fragmine
 lepidis aut testa aperiantur; humor in usum medicamentum est. Præcipuum montium Liba-
 num erigit, mirum dicta, tantos inter ardores specum fidamque nivibus. Idem amnem
 Jordanem alit funditque. Nec Jordanes pelago accipitur, sed unum atque alterum lacum
 integer perfuit, tertio retinetur. Lacus immenso ambitu, specie maris, sapore corruptior,
 gravitate odoris acolis pestifer, neque vento impellitur neque pisces aut suætas aquæ volu-
 cres petitur. Incerta unde superjecta, ut solido, ferunt: periti imperitique nandi perinde
 astelluntur. Certo anni tempore litumen operis; cuius legendi usum, ut ceteras artes,
 experientia docuit. Haud procul inde campum quæ ferant olim uberes magnisque urbibus
 habitatae fulminum jactu arsisse; et manere vestigia, terræque ipsam, specie torridam,
 vix frugiferam perdidisse. Nam cuncta sponte edita aut manu læta, sive herba teuis aut
 flore, seu solitam in speciem adolevere, aër et hæmia velut in cinerem vanebant. Ego
 sicut incertas quondam urbes igne caelesti flagrasse concesserim, ita halitus lacus infici ter-

ram, corrumpi superfluum spiritum, eoque fetus segetum et amentium putrescere reor, solo excoque juxta gravi. Et Helas amnis Judaico mari illabitur : circa ejus os lecta mens admixto nitro in vitrum excoquantur. Medicum id litus et egerentibus inexhaustum.

Lucan.—Book I.

Quis justus induit arma,

Scire nefas : magno se jndice quisque tuerat :
 Victrix causa Diis placuit, sed victa Catoni.
 Nec coiere pares : alter, vergentibus annis
 In senem, longoque toge tranquillior usu,
 Dedit jam pace duccm ; famaeque petitor
 Multa dare in vulgus ; totas popularibus auras
 Impelli, plausuque sui gaudere theatri ;
 Nec reparare novae vires, multamque perire
 Credere fortune. Stat magni nominis umbram.
 Qualis fragifero quercus sublimis in agro,
 Excultas refertus populi, sacraeque gestans
 Dona duccm, nec jam validis radicibus haerens
 Pendere fixa suo ost, nodosque per aera ramos
 Effundens, trunco, non frondibus, efficit umbram ;
 At, quamvis primo nutet casura sub Euro,
 Tot circum sylvae firmo se robore tollant,
 Soli tamen collitur.

Translate into Latin prose :—

You may recollect the mention, in one of our conversations, of a young man who wasted, in two or three years, a large patrimony in prodigate revels with a number of worthless associates, who called themselves his friends, till his last means were exhausted, when they, of course, treated him with neglect or contempt. Reduced to absolute want, he one day went out of the house with an intention to put an end to his life ; but wandering awhile, almost unconsciously, he came to the brow of an eminence which overlooked what were lately his estates. Here he sat down, and remained fixed in thought a number of hours, at the end of which he sprang from the ground with a vehement exulting emotion. He had formed his resolution, which was, that all these estates should be his again ; he had formed his plan, too, which he began instantly to execute. He walked hastily forward, determined to seize the very first opportunity, of however humble a kind, to gain any money, though it were ever so despicable a trifle, and resolved absolutely not to spend, if he could help it, a farthing of whatever he might obtain. The final result was, that he more than recovered his lost possessions, and died an inveterate miser, worth sixty thousand pounds.—*FESTUS.*

20th Sept. mber, 1854, 9 o'clock, a.m.

COURSE I.—PROSE COMPOSITION IN ENGLISH.—*Examiner, Rev. C. F. Darley, A.M.*

SUBJECT FOR ESSAY :—A Sketch of the Greek Theatre.

20th September, 1854, 9 o'clock, a.m.

MODERN LANGUAGES.—*Examiner, Professor Frings, Ph.D.*

GERMAN.—I.

1. How was the Anglo-Saxon converted into English ?
2. From which of the German dialects sprung the English language ?
3. When did the preponderance of the High-German over the Low-German become fully decided ?
4. Wherein does the High-German principally differ from the Low-German ?
5. What is the name of the great family from which all the European languages are derived ?
6. Name the languages with which the German stands in relationship (not those which are derived from it), and state whether it be in the first, second, or third degree.
7. State the principal points in which the German Nation essentially differs from that of the other nations.
8. State the date and name of the most ancient lasting monument of the old German language.

II.

1. Who is Wolfram von Eschenbach, and when did he live ?
2. Give the dates of the birth and death of Schiller, and state any particulars with regard to his life you may recollect.
3. Which was his first dramatic production, and how old was he when he wrote it ?
4. Which are considered to be his masterpieces ?
5. How is the late cultivation of German literature to be accounted for ?

III.

1. What is the difference between the two auxiliaries *Sein* and *Werden*? Give examples in the present and past tenses.
2. In what essential does the construction of a German phrase differ from that of an English one?
3. What effect has the beginning the phrase with a conjunction upon the construction?
4. Decline: "*Ein alter Soldat—Der kleine Matrose—Jenes grosses Haus*"—both in the singular and plural.
5. Name the prepositions which govern both the dative and accusative, and state the circumstances under which they take either the one or the other case.
6. On which of the syllables does the accent regularly fall in German?

IV.

Translate into German :—

If the history of England be ever written by one who has the knowledge and the courage—and both qualities are equally requisite for the undertaking—the world would be more astonished than when reading the Roman annals by Niebuhr. Generally speaking, all the great events have been distorted, most of the important causes concealed, some of the principal characters never appear, and all who figure are so misunderstood and misrepresented, that the result is a complete mystification, and the perusal of the narrative about as profitable for an Englishman as reading the adventures of Peter Wilkins.

Distance—Switz.

Y.

Translate into English :—

[illegible]

MINIAT.—Geschichte der Deutschen.

VI.

Reiß mich nicht von, daß mich (Hörst,)
 Denn mein Gefühls ist dir wie Wunde;
 Ich möchte dir sein, ganz dein Herz gönn,
 Wenn das Gefühl will es nicht.

Im ersten Akt vertritt der Götter Rat
Die große Nacht, und so mag ich erklären:
Der harte Geist schließt seinen Mund auf,
Schweigend bei Tage mag ich überhören Lärm.

Glaube: steht im Kern des Ganzen. Doch kann der Geist in Klagen sich ergießen; Allein ein Schmerz brüht man die Rippen zu, Nur ein Stein vermag zu entlasten.

GÖTTING—WILHELM MEISTER.

Future

I

1. Compare the language spoken in France at the time of the troubadours with the present French, and state by what names they are distinguished from one another.
2. Which of the countries where Latin had been spoken came last to the possession of an independent language and literature?
3. During what period was the French language spoken by the superior classes of society in England?
4. What dialect was the general language of France in the ninth century?
5. To what dialect do we now give the exclusive name of French?
6. Which are among the most interesting productions in French of the Middle Age?

II.

1. How do you account for the same adjective in French being placed sometimes *before*, and sometimes *after* the noun? Give examples.
2. What class of verbs is regularly conjugated in English with the auxiliary *To Have*, while in French with *Etre*?
3. What do the French mean by the word *Renaissance*, and how was the French literature affected by the *Renaissance*?
4. Mention the most remarkable French writers of the seventeenth century, and give as many particulars as you can respecting their works.

5. Draw a parallel between *Cornéille* and *Racine* as dramatic writers, showing how the difference may be accounted for.
6. What is the difference between *Vieux* and *Ancien*, between *Nouf* and *Nouveau*?
7. Enumerate the successive periods in the progress of the French language since its origin, giving the dates of their respective commencements.
8. Which of the numeral adjectives are flexible in French, and when?

III.

Translate into French:—

Our ancestors naturally looked with serious alarm on the growing power of France. This feeling, in itself perfectly reasonable, was mingled with other feelings less praiseworthy. France was our old enemy. It was against France that the most glorious battles recorded in our annals had been fought. The conquest of France had been twice effected by the Plantagenets. The loss of France had been long remembered as a great national disaster. The title of King of France was still borne by our sovereigns. The lilies of France still appeared, mingled with our own lions, on the shield of the House of Stuart. In the sixteenth century the dread inspired by Spain had suspended the animosity of which France had been anciently the object; but the dread inspired by Spain had given place to contemptuous compassion, and France was again regarded as our national foe.

MACAULAY—*History of England.*

IV.

Translate into English:—

Parler de La Fontaine n'est jamais un ennui même quand on serait bien sûr de n'y rien apporter de nouveau: c'est parler de l'expérience même, du résultat moral de la vie, du bon sens pratique, fin et profond, universel et divers, égayé de raillerie, animé de charme et d'imagination, corrigé encore et embelli par les meilleurs sentiments, conseillé surtout par l'humilité; c'est parler enfin de toutes ces choses qu'on ne sent jamais mieux que lorsqu'on a mûri soi-même. Ce La Fontaine qu'on donne à lire aux enfants ne se goûte jamais si bien qu'après la quarantaine; c'est ce vieillard dont parle Voltaire et auquel il a comparé le poète d'Honneur: il gagne à vieillir, et, de même que chacun en pressant de l'âge sent mieux La Fontaine, de même aussi la littérature française, à mesure qu'elle avance et qu'elle se prolonge, semble lui accorder une plus belle place et le reconnaître plus grand.

SAINT-BEVÉ—*Causeries du Lundi.*

V.

Le Génie a besoin d'un peuple que sa flamme
Anime, éclaire, chauffe, embrase comme une âme,
Il lui faut tout un monde à régir en tyran;
Dès qu'il a pris son vol du haut de la falaise,
Pour que l'ouragan soit à l'aïse,
Il n'a pas trop de l'océan!
C'est là qu'il peut ouvrir ses ailes; là, qu'il gronde
Sur un abîme large et sur une eau profonde;
C'est là qu'il peut hondir, grânt capricieux,
Et tournoyer, debout dans l'orage qui tombe,
D'un pied s'appuyant sur la trombe,
Et d'un bras soutenant les cieux.

VICTOR HUGO—*Odes.*

ITALIAN.

I.

1. State the origin of the Italian language.
2. To what century do we trace the earliest genuine Italian?
3. State the time when the Italian language in prose commenced to be used.
4. Who gave the first model of pure and elegant Italian prose?
5. When does the *Divine Commedia* seem to have been commenced?
6. Which of the Italian poets had most influence over the taste of his age, and who, more than any other, also gave stability to the Italian language?
7. What is the origin of the Italian definite and indefinite articles?
8. Who is considered the best Italian tragic writer, and when did he live?
9. State what you know of *Dante's* life and writings.
10. Describe the state of the Italian literature during the seventeenth and eighteenth centuries.

II.

1. When is the definite article used in Italian before the words "*Signor*" and "*Signora*," and when not?
2. When do the possessive pronouns refuse the definite article in Italian?
3. When are the personal pronouns attached to the verb so as to form one word with them? Is there no exception?
4. How do the Italians render the English word "*some*" before a noun, and how at the end of a phrase not followed by a noun, as, for example, "*I have some*?"
5. Is the past participle changeable in Italian—how and when?

6. Which are the prepositions drawn together with the definite article in Italian, and when are both words drawn together so as to form but one?

7. In what essential does the construction of an Italian phrase differ from that of an English one?

III.

Translate into Italian:—

Does man require strength in order sincerely to humiliate himself, and to acknowledge himself a sinner? Is it not true that, in general, we pass our youth in vanity, and that, instead of using all our efforts to advance in the career of good, we spend a great part of it in degrading ourselves? There are exceptions; but I confess that they do not affect my humble self. It is no merit of mine to be discontented with myself. When one sees a torch giving forth more smoke than light, it does not require much candour to say that it does not burn well.

SALVIO PELLICO—*Le mie Prigioni.*

IV.

Translate into English:—

Io ho pensato un nuovo modo per allevare un mio figliuolo, e voglio comunicarlo a voi, perchè se vi pare che l'usanza possa essere di qualche utilità, pubblicamente la mia intenzione. L'ho mantenuto prima alle scuole tutto quel tempo che m'è paruto a proposito, perchè egli facesse quel profitto ch'io desiderava. Ma non crediate già ch'io gli avessi trovati maestri di retorica e d'altre arti che inseguino a farellare, le quali a noi uomini di privata condizione non giovano punto; e vengono di rado adoperate, quando non debberiamo d'essere avvocati, o divenire predicatori. In quello scambio l'ho fatto ammaestrare in vario lingue; tanto egli favella speditamente la inglese, la francese, la tedesca e la greca, quella però che volgarmente si parla, non quella d'Omero nè di Platone.

Boccaccio—*Il Decamerone.*

V.

Voi ch'ascoltate in rime sparse il suono
Di questi sospiri, ond'io nodriva il core
In sul mio primo giovenile errore,
Quand'era in parte altr'uom da quel ch'io sono.

Del vario stile in ch'io piango e ragiono,
Fia le vane speranze, e'l van dolore,
Ove sin chi per prova intenda amore,
Spero trovar pietà non che perdono!

Ma ben vegg'or, sì come al popol tutto
Favola fu gran tempo: onde sovente
Di me medesimo meco mi vergogno

E del mio vaneggiar vergogna è'l frutto
E'l pentirsi, e'l conoscer chiaramente
Che quanto piace al mondo è breve sogno

PETRARCA—*Sonetti.*

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—*Examiner, Rev. C. F. Darley, A.M.*

1. In what localities is the modern Frisian language to be found?
2. The most characteristic difference between the Saxon and Icelandic languages lies in the peculiar position of the definite article in the latter. Explain this.
3. According to Dr. Latham, the Celtic language is deficient in the ordinary means of expressing case. What provision is made for this deficiency? Give examples.
4. Adduce specimens of hybrids in the English language, and of legitimate words taking the appearance of hybrids.
5. The word etymology is susceptible of a double meaning. State the two meanings and exemplify them.
6. Explain the difference between artificial and natural gender.
7. It is a common notion that the genitive form "Father's," is contracted from "Father his." Give the various arguments to show that the notion is unfounded.
8. State the sources of the English articles "a," "an," and "the," and show that these sources are common also to the German, Danish, French, Italian, and Spanish articles.
9. Give an account of the word "quoth," in English and Anglo-Saxon.
10. Criticise Darwin as a poet.

20th September, 1854, 2 o'clock, p.m.

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—*Examiner, Rev. C. F. Darley, A.M.*

1. Mention the origin of the prefix "y," and state the chief facts on the subject.
2. A reflected personal pronoun is not to be found in the English language; how is this deficiency provided for?
3. Which case in English, and which in Anglo-Saxon, is the absolute case.

4. Explain the "Suggestive Style" in composition and its uses, according to Archbishop Whately's views on the subject.
5. State some of Archbishop Whately's reasons for believing that the adoption of a system of rules for "argumentative composition" is useful.
6. Institute a comparison between the literature of Queen Anne's reign and that of the 19th century.

30th September, 1854, 9 o'clock, a.m.

LOGICS.—*Examiner, Rev. James McCosh, LL.D.*

1. State the names, and, in a general way, the contents of the books of Aristotle's *Organon*. In which of these does he speak of the foundation on which demonstration ultimately rests? What is his doctrine on this subject?
2. What is the difference between analytic and synthetic judgments? With which of these has logic to do?
3. What is the nature of the numerically definite syllogism introduced by Prof. de Morgan? It being admitted that the reasoning is correct in every such syllogism, what objections have been taken to its introduction into formal logic? Do these objections seem to you to be valid?
4. Can you state the classification of the ultimate laws of thought propounded by those modern logicians who represent logic as the science of the necessary laws of thought?
5. What is the principle of sufficient reason? Has it, or has it not, a logical value?
6. What is the table of logical judgments, according to Sir W. Hamilton? What according to Mr. Thomson (in *Outlines of the Laws of Thought*)?
7. What is the general canon of the syllogism, according to these logicians? How many moods do they admit? What is the canon of the second figure?
8. What are the principal ideas and conceptions necessarily involved in physical investigation, but which, according to Whewell, cannot be had from experience?
9. What are the principal points of difference between Whewell and Mill as to the nature of induction?
10. When Kepler, being in possession of a series of facts as to the planet Mars, announced that it moved in an elliptic orbit, was he, or was he not, performing an act of induction?
11. What is the nature of an empirical law?
12. In what sense may we admit, and in what sense deny, the existence of chance? What is meant by probability in the mathematical doctrine of probabilities?

30th September, 1854, 2 o'clock, p.m.

METAPHYSICS.—*Examiner, Rev. James McCosh, LL.D.*

1. What are the distinguishing points of difference between Plato and Aristotle, especially as to Ideas and Forms?
2. What are the categories of Aristotle? What are the categories of Kant? What reduction of them, or improved generalization, is proposed by Cousin? Had Aristotle and Kant the same object in view in forming these categories?
3. What is truth? What is the criterion of truth? What account does Locke give of the nature of knowledge? What are Kant's views on this subject? Can there be a material or objective criterion of truth?
4. What is the distinction between *a priori* and *a posteriori* principles? Supposing that there are *a priori* principles in the mind, how are they to be found out, and their nature determined? What is Kant's method of determining them in his "Critick of Pure Reason"?
5. State the distinction, as drawn by Cousin and others, between the logical and chronological order of our necessary or *a priori* ideas? Are you prepared to criticise it?
6. What are Kant's contradictions of pure reason? Do you consider them real contradictions? Or may they not be merely contradictions in his mode of stating them?
7. What is the nature and office of the practical reason of Kant? Could the objections urged by Kant against the validity (objective) of the speculative reason be turned against the practical reason? But are these objections valid?
8. State the view of Locke, the view of Kant, the view of Schelling or of Hegel, in regard to the Infinite?
9. A mariner lets down a sounding line a thousand fathoms into the ocean, and yet has not reached the ground, but he does not, therefore, conclude that the ocean has no bottom. Again, the mind tries to conceive of a star many thousand leagues distant in space; but when it has reached the point where its conceptive power ceases, it believes that there must be a space beyond. Why does the mind, in the one case, refrain from concluding that the ocean has no bottom, while in the other it believes that space has no limit?
10. What is Brown's doctrine in regard to the nature of perception? Are you prepared to criticise it?
11. What are the opposite opinions which have been maintained in regard to the view which Locke took of the nature of the ideas entertained or contemplated by the mind when engaged in sense-perception? State, in particular, the opposite opinions, on this subject, of Reid and Stewart, on the one hand, and of Brown, on the other.

12. State some of the principal views which have been entertained and defended as to the idea and nature of the Beautiful? Criticise the doctrine of those who resolve beauty into association of ideas? Who are the principal defenders of this doctrine?

2nd October, 1854, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, William Neilson Hancock, LL.D.*

1. The word law is, in the English language, used to express two distinct ideas, which in some other languages are expressed by distinct words.
2. Contrast Lord Bacon's maxims with respect to appeals with those of Bentham.
3. What is the meaning of Bentham's term, *Integrality of a Code of Laws*? and how does he answer the objection that it is not possible to provide for all cases in a code?
4. What, according to Bentham, are the chief securities for testimony?
5. What is the general principle with respect to the regulation of the jurisdiction of tribunals? and are there any special cases of exceptions to this principle?
6. Should the cost of prosecuting and of defending prisoners be in any case defrayed by the public? and if so, on what principle?
7. What is the present state of the law with respect to the registration of deeds and charges on land in Ireland? To what extent is it conformable with the principles on which a general register should be constructed?
8. What is the present state of the law with respect to Savings Banks in Ireland, and what changes are required to give adequate security to depositors?
9. What is the difference between the law of Scotland and the law of Ireland with respect to lending power? and what effect is this difference calculated to produce?
10. The law with respect to the use of unstamped conveyances in evidence is at variance with the fundamental principles of Jurisprudence with respect to the reception of testimony; and is also inconsistent with the policy of the Statute of Frauds?
11. It is objected that the recent change in the law, by which the evidence of the plaintiff and defendant is admitted, leads to an increase of perjury. If this objection be correct, is it a sufficient reason for restoring the old rule of law?
12. Give a sketch of the present state of the science of Jurisprudence in England, and on the Continent.

2nd October, 1854, 3 o'clock, p.m.

POLITICAL ECONOMY.—*Examiner, William Neilson Hancock, LL.D.*

1. Give an account of the changes which have taken place in the standard of value in England since the Conquest, and state what is the present standard of value.
2. On what causes does it depend whether the discovery of gold in Australia will have any permanent effect upon prices in England, and in what way can such an effect be counteracted?
3. Adam Smith says—"In reality high profits tend much more to raise the price of work than high wages." What argument does he use in support of this proposition, and state your opinion of its validity?
4. What inference does Adam Smith deduce from the fact that bankruptcies are most frequent in the most hazardous trades, and is his inference correct?
5. Adam Smith states that whilst the interest of the landlord and the labourer is in accordance with the interest of the community at large, the interest of the capitalist is at variance with it. Prove or disprove this proposition.
6. Mr. Senior says, even if speculation in the funds were attended with no expense, it is mathematically certain that it could in the aggregate afford no profit, as what is gained by one must be lost by another. Is this correct? and if so, how do you account for the profession of stockbroker?
7. What is the true way of estimating the advantages which the French and English would enjoy from a perfect free trade in wine and linen?
8. Show from this Mr. Mills' error as to the effects of international trade, and show also the fallacy of the theory that free trade is beneficial only in case of reciprocity.
9. Explain the distinctions which mark a bank of issue, a bank of deposit, and a bank of discount, respectively, and show in what way profit is made in each case?
10. What is the difference between the English system of bankers making advances on bills of exchange, and the Scotch system of advances on cash accounts?
11. It is objected to an income tax, that the emoluments of a professional man, whose income lasts only for his life, is unfairly taxed in proportion to the tax which falls on land, the income of which is perpetual. Prove or disprove this objection.
12. On what principle should the limit of taxation be fixed in the case of an income tax, and should the whole income, or the excess above the limit, be taxed?

27th September, 1854, 9 o'clock, a.m.

MECHANICS AND HYDROSTATICS.—*Examiner, George F. Shaw, F.T.C.D.*

1. Assuming as the unit of density the density of water, which weighs 62.5 lbs. per cubic foot, and assuming 1 ton as the unit of weight, what is the corresponding unit of volume?

2. Show that a body's moment of inertia plays the same part in its angular motions as its mass in motions of translation.

3. (a) If A, B, and C represent the attractions exercised by a solid ellipsoid on three material points, placed respectively at the end of the three semiaxes, a , b , c , show that

$$\frac{A}{a} + \frac{B}{b} + \frac{C}{c} = 4\pi\rho$$

ρ being the density of the solid.

(b) Show that B and C, which act on the points at the extremities of the mean and least semiaxes, may be represented geometrically by certain quantities furnished by the corresponding focal conics, (Mac Cullagh).

4. (a) State and prove Ivory's theorem, and (b) from it deduce M'Laure's, namely, that two confocal ellipsoids attract an external point in the same direction and with forces proportional to the attracting masses.

5. (a) State the principle of virtual velocities in all its extent—i.e., as applied to a system of points whose motions are connected by any given number of equations, $L=0$ $L'=0$, &c.

(b) Apply this principle to determine the condition of equilibrium of two smooth spheres, resting respectively on two smooth inclined planes, and connected together either by a rod or a string, according as the planes face each other, or lie back to back, and the connecting rod or string being supposed, successively, elastic and non-elastic.

6. (a) State D'Alembert's principle in all its extent, and show that it furnishes for every point of a system as many equations as there are independent co-ordinates.

(b) Applying this principle to the case of two smooth spheres, resting respectively on two inclined planes, and connected by an inextensible string, show that their motion conforms to the equation

$$r = \frac{gt^2}{2} \left(\frac{m \cos \theta - m' \cos \theta'}{m + m'} \right) + ct + c'$$

and express the tension of the string in terms of the masses m , m' , and of the impressed forces, $m \cos \theta$ and $m' \cos \theta'$.

7. (a) A solid body swings on a horizontal axis. Show that if its line of centres of oscillation be made a new axis of suspension, the time of oscillation will be unaltered.

(b) Where must the axis be placed, in order that the time of oscillation may be a minimum.

8. (a) What is meant by the "central ellipsoid" corresponding to each point in a solid body?

(b) Show that when such a body hangs on a fixed point, the axis of the rotation which a couple produces in it is the conjugate diameter to the plane of the couple in the central ellipsoid corresponding to the point of suspension.

9. (a) Show that the motion of a projectile in air is expressed by the differential equations

$$\frac{d}{dt} \frac{v \cos \alpha}{v \cos \alpha} = -\frac{g}{k^2} \frac{ds}{v^2} \quad g \cos \alpha = -\frac{ds}{dt} \frac{da}{v^2}$$

where α is the varying angle of elevation, and k the particular velocity at which the resistance of the air would equal the weight of the projectile.

(b) Hence deduce the equation of the trajectory in the form

$$\frac{k^2}{a^2 \cos^2 \alpha} e^{\frac{2\alpha}{k^2}} = F(\rho)$$

and, for the velocity, the equation

$$v^2 = \frac{k^2 (1 + \rho)}{F(\rho)}$$

ρ being $\tan^2 \alpha$, and α the initial value of α .

10. A floating body is slightly disturbed from its position of equilibrium. Show that the *vis viva*, in any position, is

$$= -g\rho b \zeta^2 - g\rho (b h^2 + a V) \theta^2 + c,$$

where ρ is the density of the fluid, b the area of the section of flotation, ζ the depth to which the centre of this section is depressed below the surface, ρV the weight of the floating body, a the distance of the centre of gravity of the body from the centre of gravity of the displaced fluid, $b h^2$ the moment of inertia of the section of flotation, with respect to the line in which this section is cut by the horizontal section through its centre of gravity, and c a constant determined by the initial circumstances of the body.

(b) Deduce from the above equation the conditions under which the equilibrium of the body will be stable.

27th September, 1854, 2 o'clock, p.m.

OPTICS, HEAT, AND ELECTRICITY.—*Examiner, George F. Shaw, F.T.C.D.*

1. (a) Show that in a spherical reflector the least circle of spherical aberration has its

$$\text{radius} = \frac{1}{2} \frac{(k-r)^2}{k} \frac{x^2}{r^2}$$

x being the semi-aperture; and (b) that the distance of the plane of this circle from the geometric focus is $= \frac{1}{2}$ longitudinal aberration of extreme ray.

2. (a) Show that in order to achromatize one lens by another their focal lengths must be proportional to the dispersive powers of their respective materials.

(b) Assuming this, what must be the curvature of the second surface of a double concave lens of flint glass, the first surface of which has a radius of 18 inches, and is ground to fit one surface of a double convex lens, the second surface of which is 24 inches.

NOTE.—The dispersive powers of flint and crown glass are in the ratio of 5 : 4.

3. Let α, β be the co-ordinates of a point in a ray of light, incident at x, y , on a refracting curve, $F(x, y) = 0$. Show that—

$$\frac{(\alpha - x) dx + (\beta - y) dy}{\rho} + m \frac{(\alpha' - x) dx + (\beta' - y) dy}{\rho'} = 0$$

is the equation of the refracted ray, α', β' , being its running co-ordinates, and ρ, ρ' , the lengths taken on the incident and refracted rays.

(b) Hence find the equation to a surface that will refract parallel rays accurately to a point, and show that by the combination of spheroidal with plane or spherical surfaces, it is always possible to construct a lens which shall be perfectly aplanatic for parallel rays.

4. (a) Show that the differential equation of the motion of heat in a ring, is of the form—

$$\frac{d^2 v}{dt^2} = k \frac{d^2 v}{dx^2} - \lambda v$$

v being the temperature at the point x , and k and λ being functions of the section, specific heat, exterior and interior conductivity, &c.

(b) Prove that for high values of t the integral of this equation becomes—

$$v = \left\{ c + e^{-\frac{\lambda t}{k}} \left(a \sin \frac{x}{r} + b \cos \frac{x}{r} \right) \right\} e^{-\lambda t}$$

r being the radius of the ring.

(c) From the form of this solution deduce the fact, that the sum of the temperatures at the extremities of any diameter is the same for all diameters.

5. The total action of two elements of different currents on each other, is a function of their mutual distances and of their relative directions. Give the experiments and successive steps of analysis, by which this function is completely determined.

28th September, 1854, 9 o'clock, a.m.

ASTRONOMY, MECHANICAL AND GEOMETRICAL.—*Examiner, George F. Shaw, F.T.C.D.*

1. (a) Supposing the undisturbed lunar orbit to be circular, show that the sun's disturbing force converts it, relatively to the earth, into an oval having its minor axis in syzygy, and (b) the ratio of its axes $= \frac{79}{69}$.

2. Show that the motion of the Nodes of the lunar orbit (supposed circular) is expressed by the differential equation

$$\frac{dN}{d\theta} = \frac{3}{4} m^2 \left\{ 1 + \cos 2(\theta - m\theta) - \cos 2(\theta - N) - \cos 2(m\theta - N) \right\},$$

and hence deduce the mean value of the motion in question to be—

$$-\left(\frac{3}{4} m^3 - \frac{9}{32} m^5 + \frac{27}{128} m^7 + \&c. \right) \theta$$

3. Let V be the potential of a system of masses (m', m'', m''' , &c.) with respect to a given material point m . Displace this point in any direction (along the line l , suppose), and show that

$$\frac{dV}{dl} = \text{Attraction of } m', m'', \&c., \text{ on } m, \text{ estimated along the line } l$$

4. From the preceding, or independently, show that in the equations of motion of a disturbed planet, viz.—

$$\frac{d^2 x}{dt^2} + \frac{(M+m)}{r^3} x + \frac{dR}{dx} = 0 \quad \frac{d^2 y}{dt^2} + \&c. = 0 \quad \frac{dz}{dt^2} + \&c. = 0$$

the disturbing function R may be assumed to be

$$\Sigma (A' p') + \bar{V},$$

where A', A'' , &c., represent the attractions of $m', m'', \&c.$, on the sun; $p', p'', \&c.$, the projections of the radius vector of the disturbed planet on those of the disturbing; and $\bar{V}$ the potential above mentioned.

5. In preparing to form the differential equation of the moon's radius vector, it is necessary to reduce the terms $\sin 2(\theta - \theta')$ and $\cos 2(\theta - \theta')$, respectively, to

$$\sin \left\{ (2-2m)\theta - 2\beta \right\} - 2\epsilon' \sin \left\{ (2-m)\theta - \beta - \alpha' \right\} + 2\epsilon' \sin \left\{ (2-3m)\theta - 3\beta + \alpha' \right\}$$

and

$$\cos \left\{ (2-2m)\theta - 2\beta \right\} - 2\epsilon' \cos \left\{ (2-m)\theta - \beta - \alpha' \right\} + 2\epsilon' \cos \left\{ (2-3m)\theta - 3\beta + \alpha' \right\}$$

Perform this reduction.

6. Prove that the effect of the term

$$\frac{15}{8} \epsilon m \epsilon \cos \left\{ (2-2m-\epsilon)\theta - 2\beta + \alpha \right\}$$

in the moon's radius vector is equivalent to certain changes in the eccentricity of the orbit and the longitude of the perigee.

7. Given a star's declination and right ascension; investigate the problem at what day in the year it will appear on the horizon of a given terrestrial place, the sun being at the same instant a given number of degrees (ϕ) below the horizon.

8. Suppose a small error to be made in observing the altitude of a star, find the consequent error made in sidereal time; and derive hence the practical rule, that observations for finding the apparent time should be taken when the star is on or near the prime vertical.

9. Let δ be the elongation of an inferior planet when it appears stationary. Show that

$$\sin^2 \delta = \frac{r^2 - R^2}{R^2 - r^2}$$

R and r being the radii of the Earth and planet: and x being defined by the equation

$$\frac{x^2}{r^2} = \frac{r}{R}$$

and derive hence a geometrical construction for determining the stationary points.

2nd October, 1854, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. The roots of the equation $x^3 - px^2 + qx - r = 0$, being supposed to be in arithmetic progression, find them.

2. If D be the discount, and I the interest, on $\mathcal{L}P$ for any time, prove that

$$\frac{1}{D} = \frac{1}{P} + \frac{1}{I}$$

3. Investigate the formula by which the present value of an annuity, which is to continue a given number of years, is calculated.

4. n balls, three of which are marked, being thrown into a bag, calculate the probability that the three balls first drawn are those marked.

5. Fifteen persons take their places by lot at a round table, calculate the probability that two particular persons do not occupy contiguous places.

6. Prove that in any plane triangle

$$\frac{\tan \frac{1}{2} A}{\tan \frac{1}{2} B} = \frac{s-b}{s-a}$$

7. Prove similarly that in any spherical triangle

$$\frac{\tan \frac{1}{2} A}{\tan \frac{1}{2} B} = \frac{\sin(s-b)}{\sin(s-a)}$$

8. Investigate the formula for the radius of torsion in any curve of double curvature.

9. Transform

$$D^2V + D_x^2V + D_y^2V = 0$$

into a function of r, θ, ϕ , where

$$x = r \cos \theta, y = r \sin \theta \cos \phi, z = r \sin \theta \sin \phi.$$

10. If U be an homogeneous function in x, y, z , of the n^{th} degree, prove that

$$x D_x U + y D_y U + z D_z U = n U.$$

2nd October, 1854, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Investigate the partial differential equation to cylindrical surfaces.

2. Find the degree of the developable whose *arête de rebroussement* is the intersection of two surfaces of the m^{th} and n^{th} degrees, respectively.

3. Investigate the equation of the diametral circle of a curve of the n^{th} degree.

4. Prove that the envelope of the polars of the various points on the conic section

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1,$$

taken with regard to the conic section

$$U = u_1 + u_2 + u_3 = 0,$$

is given by

$$(\alpha D_x U)^2 + (\beta D_y U)^2 = (u_1 + 2u_2)^2$$

5. More generally, prove that the envelope of the polar planes of the various points on the surface

$$\frac{x^n}{a^n} + \frac{y^n}{b^n} + \frac{z^n}{c^n} = 1$$

taken with regard to the surface

$$U = u_1 + u_2 + \dots + u_1 + u_2 = 0$$

is given by

$$(\alpha D_x U)^{\frac{n}{n-1}} + (\beta D_y U)^{\frac{n}{n-1}} + (c D_z U)^{\frac{n}{n-1}} = (-1)^{\frac{n}{n-1}} \{u_1 + 2u_2 + \dots + n u_n\}^{\frac{n}{n-1}}.$$

6. If the equation to a surface be

$$U = u_1 + u_2 + \dots + u_1 + u_2 = 0$$

show that the perpendicular from the origin upon the tangent plane at any point is given by the formula

$$P = \frac{u_1 + 2u_2 + \dots + n u_n}{[(D_x U)^2 + (D_y U)^2 + (D_z U)^2]^{\frac{1}{2}}}$$

7. Find $\int \frac{e^x dx}{x^2}$

8. Find $\int e^{-x} \cos x dx$.

9. The value of the definite integral

$$\int dx \int dy \int dz \dots a^{\phi(xyz, \&c.)} \cdot b^{\chi(xyz, \&c.)} \cdot c^{\psi(xyz, \&c.)} \dots$$

being given in terms of $a, b, c, \&c.$, show that we can at once determine the value of

$$\int dx \int dy \int dz \dots F(\phi + \chi + \psi + \&c.) \cdot a^{\phi} \cdot b^{\chi} \cdot c^{\psi} \dots$$

the quantities $a, b, c, \&c.$, being supposed independent of the limits of the integral.

27th September, 1854, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, George F. Shaw, F.T.C.D.*

1. How is the refractive power of a given fluid ascertained experimentally?
2. This being known, how is the dispersive power deduced?
3. Describe the process by which M. Dumas determines the density of a vapour.
4. With a balance, weights, and Nicholson's hydrometer ungraduated, show how to take the specific gravities of fluids.
5. Describe the weight-thermometer, and its use; also show how its constants are determined.
6. State the use of each component part of the common electrical machine, avoiding in your statement all hypotheses concerning the existence of one or more electrical fluids.
7. Describe some of the experiments which illustrate the mutual actions of magnets and electric currents; and show that these can be explained by the actions of currents on each other.
8. Describe Grove's, Smee's, and Daniell's batteries, and point out the advantages that they respectively possess over the ordinary zinc and copper arrangements.
9. State the law of density of a number of elastic fluids confined in the same space, and describe the effect which a suspension of this law would produce in the condition of the atmosphere.
10. State the principle of Montgolfier's hydraulic ram, and draw a longitudinal section of the machine.

28th September, 1854, 2 o'clock, p.m.

CHEMISTRY.—*Examiner, Edmund Ronalds, Ph.D.*

1. How is the atomic volume of a substance ascertained, and what law has been observed by Kepp with reference to the atomic volumes of many isomorphous bodies?
2. Give some instances of the class of phenomena attributed to what has been termed catalytic force.
3. State the composition of the oxides of chlorine, and the reaction which ensues when oil of vitriol is added to chlorate of potash.
4. How much chlorine gas should be obtained by the use of 100 grains of peroxide of manganese?

N.B.—Equiv. of Manganese,	27.67
Chlorine,	35.5
Oxygen,	8.

5. How would you make a quantitative analysis of iron-ammonia-alum ($\text{NH}_4\text{O}, \text{SO}_4 + \text{Fe}_2\text{O}_3, 3\text{SO}_4 + 24\text{HO}$)?
6. If the analysis of a specimen of felspar yielded the following quantities in 100 parts, what composition would you ascribe to the mineral?

Silica,	65.51
Alumina,	19.15
Potash, with a trace of soda and loss,	14.74
Lime,	0.60

100.00

N.B.—Equiv. of Silicium,	21.35
Aluminum,	13.69
Potassium,	39.
Calcium,	20.
Oxygen,	8.

7. Explain by means of symbols, the reaction which occurs when 6 equivs. of sulphur are fused with 1 equiv. of yellow prussiate of potash.
8. Ammonia is the type of a series of organic bases. Name some bodies belonging to this class, stating the manner in which they are related to ammonia.
9. What two views are entertained by different authors respecting the composition of the compound acids which result from the action of acids on alcohol?
10. What general law has been observed with reference to the boiling points of homologous bodies?
11. The composition of Benzol being C_6H_6 , and that of Benzoic acid, $\text{C}_6\text{H}_5\text{O}_2\text{HO}$, explain the mode of obtaining the former from the latter substance, the substitution which

H

occurs when Benzol is converted into nitro-benzol, and the mode discovered by Zinin of obtaining Aniline from that product.

12. How do you obtain the iodide of ethyl; and for the production of what substances has it recently been employed?

29th September, 1854, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Dickie.*

1. Describe the differences between the Bimana and Quadrumana in reference to external characters, more particularly in skeleton and teeth.

2. Describe the general characters of the skeleton in Aves, as contrasted with Mammalia.

3. State the relative importance of branchial organs in classification, and illustrate by examples derived from Vertebrata and Invertebrata.

4. State the peculiarities in the distribution of Chiroptera and Reptilia in the United Kingdom.

BOTANY.

1. Give a general account of the Linnæan system of classification, and state objections which may be urged against it, illustrating by examples.

2. Describe the true nature of the parts called connective, arillus, style, stigma, placenta, dissepiment.

3. Give a summary of the opinions entertained regarding the physiology of fecundation.

4. State the general distribution of Palmaceæ, Cactaceæ, Salicaceæ, and Saxifragaceæ.

ELEMENTS OF PALEONTOLOGY, CRYSTALLOGRAPHY, AND MINERALOGY.

29th September, 1854, 2 o'clock, p.m.

Examiner, Frederick McCoy, F.G.S.L., Hon. F.C.P.S.

1. Describe the general structure of *Trilobites*, give their zoological affinities, and name the formations characterized by their presence.

2. Mention some genera of *Crinoides* peculiar to silurian, devonian, carboniferous, and cretaceous rocks, respectively.

3. Give the generic characters of some genera of Cephalopods, ranging from the earliest geological periods to the present day, and of some characterizing the chalk, the trias, and devonian series, respectively.

4. What relation do angles between normals to crystalline faces bear to the interfacial angles?

5. Give the relative proportions and inclinations of the crystallographic axes in all the systems of crystallization, and their relations to the optic axes.

6. If the surface of the sphere of projection be divided into eight triangles by three great circles passing through the poles of the cubes (1.0.0, 0.1.0, 0.0.1 of Miller, or ∞ 0 ∞ of Naumann), where will the poles of G (1.1.1. of Miller), of ∞ 0 (1.0.1. of Miller), and the hemihedral form $\frac{0}{2}$ be found?

7. Normals to the faces of ∞ 0 ∞ make 90° with each other in the Tesseral system, what then must be the angles between normals to ∞ 0, and normals to ∞ 0 ∞ ?

8. To what crystalline system does the very common mineral represented by the formula $\text{K}\ddot{\text{S}}\text{r}^{\text{+}} + \text{Al}\ddot{\text{S}}\text{r}^{\text{+}}$ belong? What change of crystallization is produced by substituting N for the potash?

9. State your views (with the chemical and physical grounds) as to the value of the electro-negative and the electro-positive constituents respectively for the systematic arrangement of minerals.

EXAMINATION FOR THE DEGREE OF LL.B.

27th September, 1854, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. Describe the difference, at common law, between title by descent and title by purchase, and state how a limitation in a conveyance (executed before the 31st December, 1833,) to a grantor himself or his heirs, operates in relation to the estate created by it, and how, if the conveyance has been executed since the 31st December, 1833.

2. From whom is a descent to be traced, according to the 3 & 4 William IV., c. 106, and who is by that act to be considered the purchaser? As between vendor and purchaser, upon whom does the onus of providing that the person assumed to be last entitled, really was so; or has the second section of the Statute made any difference in practice in this respect?

3. Could a chattel interest be created in futuro at common law? In what modes, and within what limits, may a freehold interest be now created in futuro? Explain the technical reasons which were opposed to abeyance of the inheritance?

4. What is merger? A man entitled to a term of years in possession becomes seized of the freehold in the same land in right of his wife,—does the term merge in the freehold?

5. In what cases is the widow of a man solely seized of a reversion in fee in land expectant upon the determination of a lease entitled to dower? State the requisites

to right to dower, previously to, and since the passing of the Statute 3 & 4 William IV., c. 105.

6. How may a power appendant be extinguished? A seized for life, remainder to B in tail, with remainder to the heirs of A, with a power to A to jointure an after-taken wife; A conveys all his estate to trustees for the benefit of his creditors. Can he exercise the jointuring power?

7. When is a mortgage of chattels valid, notwithstanding that the possession of them continues in the mortgagor? Is there, in this respect, any distinction between such a possession by a mortgagor liable to the bankrupt laws, and one not so?

8. What precaution is necessary to be observed by the assignee of a chose in action to complete his title under the assignment?

9. What covenants are trustees usually required to enter into?

10. What is a donative mortis causa? Specify the requisites of a valid one.

11. Devise of land to A for life, with remainder from and after his decease to the right heirs of B in fee. Is this remainder a vested or contingent one? and if contingent, why is it so?

JURISPRUDENCE.—Examiner, William Neilson Hancock, LL.D.

1. What is the first dignity of the law, according to Lord Bacon?

2. In what way does Lord Bacon propose to treat obsolete laws?

3. What are the steps which he recommends for the consolidation of the statute law?

4. He describes a three-fold way of providing for omitted cases.

5. McCulloch says, "Governments have therefore precisely the same interest as their subjects in facilitating production, inasmuch as its increased facility affords the means of adding to the quantity of produce at their disposal, without really adding to the weight of taxation." What is the theory of government implied in this statement, and what is the objection to it?

6. How does Sir James Mackintosh answer the objections made to Grotius for quoting the opinions of poets and orators in support of his propositions in jurisprudence?

7. What is Sir James Mackintosh's view of the order in which Grotius investigates the principles of jurisprudence?

8. What are the four sources of the common law enumerated by Reddie?

9. Bentham describes civil law as required as a basis of criminal law. Is this the chief purpose of civil law?

10. By what means, according to Bentham, have the judges mitigated the rigour of the common law?

11. In what way does Sir Samuel Romilly prove that the decisions of the common law are not necessarily in accordance with justice and reason?

12. Sir Robert Peel's consolidation of the Jury Laws affords an illustration of the benefits of judicious codification.

27th September, 1854, 2 o'clock, a.m.

EQUITY.—Examiner, Professor Barry.

1. Can a suit in equity, for the specific performance of an agreement, be sustained on behalf of an infant? If not, has he any and what remedy for the breach of a contract with him?

2. Enumerate the various modes of defence to a bill in equity.

3. How may the right to enforce a renewal of a lease containing a covenant for perpetual renewal be lost? By what Irish statute is the equity declared?

4. How do partitions at law differ from partitions in equity? Where the entire of the lands to be partitioned are the subject of a mortgage, is the mortgagee a necessary party to the partition suit?

5. What jurisdiction does a Court of Equity assume in cases relating to last wills and testaments? Does it extend to determining their validity? (*Jones v. Jones*, 3 Mer.) If not, what assistance does it afford in ascertaining the validity of a devise of real or a will of personal estate, and what protection can it give, pending litigation respecting the will in other Courts?

6. From what time will interest upon legacies, from a parent to a child, or a testator in loco parentis to the legatee, be declared? What is the difference between such bequests and bequests to a stranger? (*Mills v. Roberts*, 1 R. and M., 355.)

7. Upon what principles, and under what conditions, is a married woman's separate property liable to her engagements? How are gifts by her to her husband regarded in equity?

8. A married woman, entitled to pin money, resident with her husband, permits her pin money to remain unpaid; how many years' arrears may she enforce?

9. State succinctly some of the leading and most important changes made in the proceedings of the Court, by the Court of Chancery Regulation Act (Ireland), 1850.

COMMON AND CRIMINAL LAW.—Examiner, Professor Barry.

1. What premises are subject to the common law maxim, "Every man's house is his castle?" Is an out-house within its protection?

2. What is the rule as to entering a house to make a distress with reference to the inner and outer door being open or shut?

3. In what, in particular, does the liability of an ostensible, differ from that of a dormant partner, for the partnership debts?

4. What kinds of concealment operate to vitiate a contract? Illustrate them by the instance of a contract of insurance.

5. By what court are offences committed on the high seas cognizable?

6. In how many penalties may a person be convicted for offences alleged to be committed on the same day, by exercising his ordinary calling on a Sunday, contrary to the 7 Wm. III., c. 17.

7. Define the offence of conspiracy. Can a conspirator be tried singly? To justify a conviction, is it necessary that an act should be proved to have been done in pursuance of the conspiracy?

8. What is a libel? To entitle an individual to proceed by way of criminal information, rather than indictment for a libel, what should the affidavit upon which the application to the court for the rule be grounded particularly contain?

9. Can there be a summary conviction before justices at common law without the intervention of a jury? In the absence of express exemption by statute, what are the legal requisites of a conviction before justices?

CIVIL LAW.—*Examiner, William Neilson Hancock, LL.D.*

1. Enumerate the sources of the Roman law.

2. What is the definition of Justice given in the Institutes?

3. What is Justinian's definition of the law of nations?

4. What are the requisites of customary law?

5. The definition of servitude in the Roman law contains a censure on slavery.

6. What is the distinction between *matrimonium* and *contubernium*?

7. What is the meaning of the word *usufructus* in the Roman law?

8. What was the rule of prescription established by Justinian?

9. Which is a nuncupative will, and in what manner does the Roman law require it to be established?

10. Explain the nature of the contract called mandate.

11. What is the difference between *pignus* and *hypotheca*?

12. What is the nature of *sanctum fœdus*, and to what does it correspond in the English law?

28th September, 1854, 9 o'clock, a.m.

PLEADING, PRACTICE, AND EVIDENCE.—*Examiner, Professor Barry.*

1. What kind of plea is that of the "Statute of Limitations"?

2. Describe the replication "de injuriâ," and state the kinds of plea to which it is a proper replication.

3. Describe the plea "quia darrein continuance."

4. How is the right of filing a replication restricted by the 16th and 17th of the Queen, c. 113, sec. 48?

5. How many larcenies may be charged by the same indictment to have been committed by the prisoner?

6. State the averments necessary in a plea of justification of a libel, under the 6th and 7th of the Queen, sec. 6. Can this plea be pleaded to an indictment for a seditious libel?

7. How is the non-joinder of a person who is a necessary party to an action, as plaintiff or defendant, now to be taken advantage of? How should it have been done previously to the 1st January, 1854?

8. Describe the action of *scire facias*. In what cases is an application to the court for liberty to issue a writ of *scire facias*, to revive a judgment, necessary? What statements should the affidavit on which such an application is grounded contain?

9. What class of questions are all witnesses privileged from answering? To what class of witnesses does the protection which the law affords to confidential communications extend? Does it include statements made by a patient to his medical attendant?

10. Under what circumstances may a witness refer to a written document to refresh his memory?

11. What was the principle of the decision in the case of "*Omichund v. Barker*," 1 Will. 538?

12. In an action of trespass for waste, how far is the judgment in ejectment evidence of the plaintiff's title?

CONSTITUTIONAL, COLONIAL, AND INTERNATIONAL LAW.—*Examiner, William Neilson Hancock, LL.D.*

1. Define Constitutional Law.

2. What circumstance made the power of Henry VIII. and Elizabeth, although so arbitrary to individuals, not so dangerous to the nation at large?

3. Explain the nature of the Habeas Corpus Act, and the extent of protection it gives to personal liberty.

4. By what provision of the English Law is the independence of the judges secured?

5. What is the basis of the law in colonies like Australia, which consist of unoccupied ground peopled by British subjects?

6. What is the basis of the law in colonies like Guiana, the Mauritius, or Canada, which have been obtained from foreign governments by treaty or conquest?
7. What political power is least frequently delegated to a subordinate government?
8. What are the advantages enunciated by Lewis which a dominant country is supposed to derive from a dependency? and what, in your opinion, is the nature and extent of these advantages?
9. Under what name was International Law cultivated amongst the Romans?
10. There are three sources of International Law corresponding to the three sources of Internal Law.
11. At what time, and in what place, was the *Consolato del mare* compiled, and to what circumstance does it owe its merits?
12. What principle of International Law was involved in the English war against China and the American expedition to Japan?

HONOR EXAMINATION FOR THE DEGREE OF LL.B.

29th September, 1884, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. When it is said that a title commencing sixty years back is sufficient, is there any, and what, distinction taken between the title to the possession and the title to the reversion?
2. Previously to the passing of the Statute 3 & 4 William IV., c. 27, secs. 21 & 22, at what time did a possession adverse to the issue in tail commence to be adverse to a remainder-man or reversioner?
3. Explain the principle of "tacking." Why is it not operative in Ireland as in England?
4. What are the requisites of a valid registration of a deed?
5. Is the registry of a deed in itself notice of it?
6. What is the effect of a lease granted by an infant?
7. A, possessed of land for a term of years, dies after having duly made his will, whereby he appointed B and C his executors. B alone proves the will, and dies, leaving C him surviving. The executor of B assigns the term. Is this assignment valid?
8. What should be particularly attended to in a mortgage of a ship?
9. What is meant by the "ademption of a legacy?" What is a demonstrative legacy? In what cases must legacies abate?
10. Give an outline of the limitations usual in marriage settlements of real estates.
11. What were the requisites of a valid devise of freehold estates previously to the 1st January, 1838? What effect would the taking of a conveyance to uses to bar dower then have had upon a previous devise of land, the fee of which the deviser had contracted to purchase?
12. Where (since the 1st January, 1838) a power is given to appoint by will attested by three credible witnesses, are three witnesses essential to a valid execution of the power?

EQUITY AND BANKRUPTCY.—*Examiner, Professor Barry.*

1. What would be the effect in equity of an express stipulation in a mortgage deed that it should be irredeemable after the expiration of seven years?
2. How does the practice of the Court of Chancery in Ireland differ from that in England in the relief granted in foreclosure suits?
3. In a suit to foreclose a mortgage in fee, instituted after the death of the mortgagor intestate, is it sufficient to make his heir-at-law a party defendant or respondent? If not, why is any other person a necessary party?
4. What are acts of bankruptcy? Enumerate those declared to be such by the 13th & 14th of the Queen, c. 107.
5. What constitutes a good "petitioning creditor's debt?"
6. What remedy has a mortgagee of the bankrupt's estate in the Bankrupt Court? and in what respect may it be more beneficial than the relief granted in equity?
7. Within what time previously to the issuing of the commission must an act of bankruptcy have been committed?
8. What is necessary to make property in "the order and disposition" of a trader, at the time of an act of bankruptcy, pass to his assignee?
9. By whom is the certificate of conformity to be granted? Is there any, and what appeal, by and to whom, against the decision of the Court of Bankruptcy granting a certificate?

29th September, 1884, 3 o'clock, p.m.

COMMON AND CRIMINAL LAW.—*Examiner, Professor Barry.*

1. Describe the writs of certiorari, mandamus, and prohibition.
2. Who is entitled to sue out and maintain an action of replevin? For what does it lie?
3. Explain the rules which regulate the appropriation of payments. A is agent for B, and also for C. D, who owes money to B, and also to C, makes a payment generally on account of his debts to B and C, not sufficient to discharge both debts; is A at liberty to regulate the application of the payment, at his discretion, between B and C?

4. What are requisites of a guarantee? Give an instance of a continuing, as distinguished from a temporary, guarantee.
5. What kind of insanity at the time of the commission of a criminal act will justify an acquittal on the ground of insanity?
6. Have a grand jury power to ignore a bill of indictment on account of the insanity of the party charged?
7. What is the meaning of "standing mute of malice?" What was the course formerly pursued with respect to persons who "stood mute of malice?" What is the present practice?
8. What is the meaning of "joinder or severing in challenges?" At what time must a challenge to the array be made? and at what time must a challenge to the pell be made?

PLEADING, PRACTICE, AND EVIDENCE.—*Examiner, Professor Barry.*

1. What is the meaning of "giving color" in pleading? In what kind of pleas was it necessary?
2. What is the plea of "autrefois acquit?" In order to sustain it, is it sufficient to put in evidence the record of the first indictment and acquittal?
3. What is meant by "arrest of judgment?" Upon what grounds will judgment in an action be now arrested?
4. Within what time after the judgment in an action must a proceeding in error to reverse it be taken?
5. Of what nature are those questions which are called "leading?" When are they prohibited, and when, and by whom, may they be asked?
6. What is a view jury?
7. What is the doctrine of variance? What is surplusage?
8. To what extent is the acceptance of a bill of exchange conclusive evidence as to the validity of the drawing?
9. Explain the difference between a judgment "in rem" and "in personam?"
10. What is the difference as to the effect of a judgment tendered in evidence in the two cases, where it is a judgment "in rem," and a judgment "inter partes?"
11. When is the memorial of a registered deed admissible evidence of the deed itself?
12. In what actions are the parties themselves still incompetent as witnesses?

30th September, 1834, 9 o'clock, a.m.

JURISPRUDENCE AND CIVIL LAW.—*Examiner, William Neilson Hancock, LL.D.*

1. Lord Bacon divides preceding writers on law into two classes. What objection does he make to each class? and in what way does he suggest that the science of law should be treated?
2. There are, according to Lord Bacon, two sources of uncertainty of laws with corresponding remedies.
3. In what way can questions in Jurisprudence be most clearly distinguished from those in Political Economy?
4. In what way may the merits of Bentham's writings on pure Jurisprudence be satisfactorily tested?
5. What is the true source of those duties which Jurists endeavoured to establish by the fiction of considering states as moral persons?
6. What important inquiry did Sir James Mackintosh include under his investigations with respect to the law of marriage?
7. At what time, and for what period, was Britain governed by the Roman law?
8. By whom, and at what time, was the study of the Roman law revived in England?
9. What is the doctrine of *Rationabilis Pars*, and to what extent was it introduced into British law?
10. From what part of the Roman law was the action of *assumpsit* derived?
11. What officers in the English courts corresponded to the *Pedanei Judices* at Rome?
12. Explain the maxim *Jus Proteritum Jus Civile subsequitur*, and state the corresponding maxim of English law.

30th September, 1834, 2 o'clock, p.m.

CONSTITUTIONAL, COLONIAL, AND INTERNATIONAL LAW.

Examiner, William Neilson Hancock, LL.D.

1. What were the limitations to Royal Authority in England at the time of the accession of Henry VII.?
2. What is the constitutional principle involved in the privilege of the House of Commons of judging of Election petitions?
3. What is the nature and extent of jurisdiction which the Common Law Courts exercise over the proceedings of the Ecclesiastical Courts by means of prohibitions, and what is the constitutional effect of this jurisdiction?
4. Explain the constitutional principles involved in the Revolution of 1688, and the manner in which the results of the Revolution were secured.
5. What was the difference between *Municipia* and *Colonia* amongst the Romans?

6. In whom is the sovereign power, and in whom is the subordinate government vested, in the case of British Colonies, which are called Crown Colonies?
7. What was the form of government usual in British Colonies before the American war?
8. Under what form of Constitution are the British possessions in the East Indies now governed?
9. Explain the origin of the *Roles d'Oleron* and their influence on the formation of the Maritime Law of England.
10. In what way does Sir James Mackintosh account for the development of International Law in modern times in Europe?
11. On what principle of International Law is the war by England and France against Russia undertaken?
12. In the present war England and France have recognized the principle that free ships make free goods, except articles contraband of war.
 - (a) To what extent is this a new arrangement on the part of England and France?
 - (b) What are "articles contraband of war?"
 - (c) What effect has this principle on the right of search, objected to by the United States?

EXAMINATION FOR DIPLOMA IN ELEMENTARY LAW.

27th September, 1854, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. Distinguish corporeal from incorporeal hereditaments, and state the several kinds of incorporeal hereditaments.
2. What is an estate tail? Enumerate the different kinds of estate tail. Give an account of the modes, formerly and at present, of barring estates tail.
3. In what respect does a tenancy in tail, after possibility of issue extinct, differ from a tenancy for life?
4. If a chattel real be limited to a man and "the heirs of his body," what estate has he?
5. What is an estate *pur autre vie*? Explain historically the law of occupancy, general and special, in estates *pur autre vie*. If an estate *pur autre vie*, be limited to a man and "the heirs of his body," what estate has he? and how may he acquire an absolute one?
6. Distinguish between joint-tenancy and tenancy in common.
7. In what conveyances is it necessary that a consideration should be expressed. Explain the theory of the conveyance by "lease and release," and state when it ceased to be necessary to execute or recite a lease for a year.
8. What kind of consideration is it which will make a deed operate as a covenant by the grantor to stand seized to the use of another?
9. How may the right to dower now be barred? What was the ordinary mode formerly adopted in practice?
10. What are contingent remainders? Explain the method formerly adopted in practice to preserve contingent remainders. How has it been superseded?
11. Enumerate the rules or canons now regulating the title to real property by descent. Distinguish them from those formerly prevailing.
12. State the forms prescribed for the due execution and attestation of wills. What is the test for determining whether an instrument is testamentary or not?

JURISPRUDENCE.—*Examiner, William Neilson Hancock, LL.D.*

1. What is the distinction between the study of law as an art and as a science?
2. Define Jurisprudence, and explain what is meant by Equity Jurisprudence and Medical Jurisprudence.
3. What is the objection to a system of common or unwritten law, on the hypothesis that it is entirely formed by judicial decisions?
4. How does Sir Robert Peel answer the objection that lawyers may be expected to oppose improvements in the law?
5. In what way did the manner of cultivating law amongst the Romans differ from the manner of cultivating it amongst the Greeks?
6. What influence had the Roman law on the formation of the law in Europe before and after the discovery of the Pandects at Amalfi.
7. Lord Bacon points out two methods of framing new statutes, and contrasts their advantages.
8. In what way were antinomies settled amongst the Athenians?
9. On what grounds does Lord Bacon object to have antinomies decided by actions in the names of feigned parties?
10. What definition does Sir James Mackintosh give of liberty as an object of government?
11. What is Mackintosh's description of the method in which a body of laws is formed in any country, and what limit does he place to the complexity of human laws?
12. What is the nature of the proposal for the fusion of law and equity? and what precedents are there for it?

27th September, 1854, 2 o'clock, p.m.

EQUITY.—*Examiner, Professor Barry.*

1. Over what subjects does the Court of Chancery generally exercise its equitable jurisdiction, and what are the grounds of such jurisdiction?
2. In what chiefly does this court differ from the Courts of Common Law?
3. Describe an equity of redemption. State the specific relief given in equity to mortgagees and mortgagors respectively, and the terms upon which such relief is usually decreed.
4. Describe the different kinds of trusts. Distinguish express from implied trusts, and give instances of each kind of trust.
5. What is the effect of the maxim that "equity follows law"? Give an illustration of it. Explain also the meaning of the rule that "he who seeks equity must do equity."
6. In what cases will relief be had in Chancery against a forfeiture?
7. Describe the writ of injunction and its operation. Mention some of the purposes for which it is granted.
8. Who may institute a suit in equity, as distinguished from parties to actions at law?
9. Are cases of fraud, accident, or trust, cognizable in a Court of Equity only?
10. What remarkable decision of the Courts of Law upon the construction of the Statute of Uses tended to revive and continue the jurisdiction of equity in matters of trust?

COMMON LAW AND CRIMINAL LAW.—*Examiner, Professor Barry.*

1. What is a lien? Upon what kind of property does the right of lien attach at common law, and what is requisite to prevent its operation?
2. What is meant by the defence called "a set-off"? Is it founded on the common law? State what may be the subject-matter of "a set-off."
3. What contracts are void at common law? State the principle decided in the case of *Mitchel v. Reynolds*, 1 P. W., 181.
4. How are contracts affected by the enactments of the Statute of Frauds? State some that are not within its operation.
5. What is bailment? Enumerate the different species of bailment, and describe the different degrees of bailment for which bailees in different cases are liable?
6. Is there any implied warranty upon a sale of moveables?
7. What is a *del credere* commission?
8. What is the right of stoppage in transitu?
9. What is requisite to constitute a contract of partnership? Distinguish some of the incidents of such a contract, as between the partners themselves and as between them and third parties.
10. State the classes of crimes in which there cannot be accessories.
11. Define perjury. State in what essential particular the evidence necessary on the part of the Crown varies from that which may be sufficient in the prosecution for other offences.
12. Class the different kinds of homicide, according to their legal character. State what averments are now sufficient in an indictment for murder—in one for manslaughter—and what averments were necessary before the passing of the 14 & 15 of the Queen, sec. 4.
13. Describe arson.
14. Describe burglary.

CIVIL LAW.—*William Neilson Hanesek, LL.D.*

1. What branches of the Civil Law were included under the *Jus Honorarium*?
2. What was the perpetual edict? By whom and at what time was it composed?
3. Describe the parts of which the *Corpus Juris Civile* is composed.
4. What is the definition of Jurisprudence given by Justinian?
5. What is the definition of the law of nature?
6. The provisions of the Civil Law, with respect to marriage, have had an important influence on the law of marriage at the present day.
7. What were the three species of guardianship under the Roman law?
8. Was the distinction between things corporeal and incorporeal the same in the Roman as in the English law?
9. What was the nature and effect of a *quærela inofficiosa*?
10. What is the difference between *commodatum* and *mutuum*?
11. Bowyer points out the incorrectness of deriving any obligations *quasi ex contractu*.
12. What is the nature of *interdicta*, and to what do they correspond in English law?

28th September, 1854, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. Define a right. Define a possibility. Define a power. Define an estate.
2. Describe a safe title, as distinguished from a marketable title. Give an instance of a title safe but not marketable.
3. Of what species of documents should the root of the title to the fee consist, to what period must it go back, and on what principle is that period fixed?
4. In what essential particular does the Statute 3 and 4 William IV., c. 27, s. 2, vary from the effect of preceding statutes of limitation in its operation upon title to land?

5. Describe a covenant running with the land.
6. Under an agreement to grant a farming lease with all usual covenants, what covenants can the lesser require, and what the lessee?
7. Mention some of the purposes which could not have been effected by purely common law conveyances, but which may be effected by conveyances operating under the Statute of Uses. Are you acquainted with, and if so, refer to the Statute giving an enlarged operation to conveyances which do not operate under the Statute of Uses?
8. Give examples of powers of appointment under the Statute of Uses, of springing uses, and of conditional limitations.
9. Give examples of conveyances under the Statute of Uses, and distinguish between those which operate with, and those which operate without, transmutation of possession.
10. Mention some particulars in which the interpretation of wills differs from that of legal instruments operating *inter vivos*.
11. Give an example of an executory devise.
12. Land is conveyed to A for life, with remainder to B for life, with remainder to the heirs of the body of A; what estate does A take?

JURISPRUDENCE.—Examiner, William Neilson Hancock, LL.D.

1. What are the general fundamental principles of coercive law, according to Reddie?
2. Reddie objects to the analytical school of jurists, that they seem to consider the legislator too much as a separate and distinct being from the people for whom he legislates. Prove or disprove this objection as far as it relates to Bentham.
3. What are the sources of the obscurity of the law, according to Lord Bacon?
4. In judge-made law, the legislator must necessarily take a narrow view of the subjects on which he legislates?
5. In stating his objections to preambles, does Lord Bacon contemplate the explanations of the reasons of the law suggested by Bentham?
6. To what extent has the suggestion of Lord Bacon, as to answers and opinions on doubtful questions been carried into effect?
7. In the description of the constitution of his Prætorian and Censorial Courts, Lord Bacon in part agrees and in part differs from the rules for the organization of tribunals laid down by Bentham.
8. Is there any precedent for the form of judgment which he recommends for his Censorial Court?
9. Lord Bacon points out the chief purpose which the table of the Prætor at Rome was intended to supply. In what manner is this purpose partly secured under the English Court of Chancery?
10. What are the leading characteristics of the reform in the law effected by Mr. Brodie's Act for the abolition of Fines and Recoveries? and can you suggest any extension of the principles involved in that Act?
11. What are the characteristics of the changes introduced by the Statute with respect to wills, passed in 1838?
12. Give some account of the progress of Jurisprudence in England since the time of Lord Bacon, with special reference to the character and effects of the writings of Bentham.

28th September, 1854, 2 o'clock, p.m.

EQUITY.—Examiner, Professor Barry.

1. State the principle upon which the jurisdiction of Courts of Equity in the administration of assets is founded.
2. Distinguish legal from equitable assets. Give an instance of each kind, and state the difference in the mode of distributing legal and equitable assets.
3. How soon after the death of a testator may a bill or cause petition be sustained by a legatee to enforce payment of his legacy?
4. Is there any difference in the priority of a voluntary bond at law and in equity?
5. Describe the equity of a married woman for a settlement out of property vested in her husband, in her right; and when does it arise.
6. What is a bill of discovery? Has there been any, and if so, what recent legislation calculated to render bills of discovery less frequent and necessary than hitherto?
7. What is the nature or object of a bill to perpetuate testimony?
8. From what source does the jurisdiction of the Court of Chancery over minors proceed? From what time in history has this court taken upon itself to act on, and in behalf of, minors as guardians?
9. By what statute is a widow made entitled to dower of an equitable estate?
10. Upon what principle is the doctrine of "election" founded? Give an example of its operation.

COMMON AND CRIMINAL LAW.—Examiner, Professor Barry.

1. Give an account of the legislation and most important events which have, from time to time, regulated the introduction into Ireland of the common law of England.
2. Under what conditions did the judges hold office before the 13th William III.? What are the provisions of that Statute, and when was the Statute analogous to it enacted in Ireland?

8. What is the legal maxim drawn from the distinction between the separate functions of judge and jury?
4. What is the general nature of presumptions of law? What are conclusive presumptions, and what are presumptions capable of being rebutted?
5. What is an estoppel? Describe the principle on which it is grounded. What is an estoppel by matter in pais? Give an instance of such an estoppel?
6. State the principle regulating the right to interest upon money. In what cases is it legally recoverable? Mention some cases in which a jury may give interest by way of damages.
7. What is the presumption of law touching the guilt of a married woman committing a felony when her husband is present?
8. What are the rules regulating the admissibility in evidence of "dying declarations?"
9. What are the rules regulating the admissibility in evidence of "confessions"—
1st—As to the person to whom the confession is made?
2nd—As to the inducement towards the party making it?
10. Enumerate the different modes of procedure by which a person accused may be brought to trial. For what kinds of offence may the Attorney-General exhibit an information *ex officio*?
11. What are the kinds and grounds of challenge? How many jurors may the accused challenge peremptorily?
12. For what offences may a subject be arrested, and by what persons? What are general warrants? and refer to the leading case relating to general warrants.

CIVIL LAW.—Examiner, William Nelson Hancock, LL.D.

1. State the different meanings of Civil Law, and show how the Roman Law came to be called the Civil Law.
2. To what extent did the Roman Law influence the formation of English Law, and from what causes did this influence arise?
3. To what extent is the Civil Law in operation at the present day in the United Kingdom and in the dependencies of Great Britain?
4. What is the difference in the position of lawyers in the Roman Republic and in England, and in what way is this difference to be accounted for?
5. What regulations did Augustus make with respect to *Juris consulti*, and for what period did it continue in operation?
6. What is the difference between the office of curator and guardian, and is there any corresponding distinction in the English Law?
7. The provision of the Roman Law from which the English probate of wills is derived underwent a change very similar to the proposed transfer of the jurisdiction as to wills from the Ecclesiastical Courts to Chancery?
8. What cause led to the introduction and extension of *fidei commissum* at Rome, and what provision of the English law was derived from them?
9. What are the differences between the Roman and English Law with respect to theft, and which is to be preferred?
10. From what proceeding of the Roman Law was the writ of *habeas corpus* derived?
11. What is the only marked distinction between real and personal property in the Roman Law?
12. There is a very remarkable difference in one point between the Roman and English Law of Marriage.

Examination Papers were prepared for the Engineering and Agricultural students; but no candidates for the diploma in those departments presented themselves.

II.—On Wednesday, the 11th October, 1854, DEGREES and DIPLOMAS were conferred as follows:—

1. *For the Degree of Doctor in Medicine.*

Daniel McAuley, Belfast.	Alexander McMath, Belfast.
Edward Macgill, Belfast.	

2. *For the Degree of Master in Arts.*

Andrew Commins, Cork.	David Ross, Belfast.
John O'Brien, Cork.	Richard Wall, Cork.
John Greenlees, Belfast.	John Witherow, Belfast.
Denis B. O'Flynn, Cork.	

3. *For the Degree of Bachelor in Arts.*

James McLurg Abernethy, Belfast.	Henry Cowan, Belfast.
David Graham Barkley, Belfast.	John Armstrong Crozier, Belfast.
Samuel Edgar Brown, Belfast.	James Cuning, Belfast.
Thomas Mortimer Bastedo, Cork.	John Duggan, Cork.
Edward J. Casey, Cork.	Alfred Edgar, Belfast.

Patrick Ford, Galway.
 Robert Johnson, Belfast.
 John Wesley Johnston, Galway.
 Daniel Kearney, Galway.
 Leslie Alexander Lyle, Belfast.
 Donald Stuart McCann, Belfast.
 Samuel McGuire, Belfast.
 Edward McGuire, Galway.
 John Mahony, Cork and Galway.
 Pierce Massfield, Cork.

Robert John Mitchell, Galway.
 Michael O'Kennedy Morris, Cork.
 Joseph A. Morrough, Cork.
 Philip O'Connell, Cork.
 Denis Florence O'Driscoll, Cork.
 James Dunne Parker, Belfast.
 Robert Reid, Belfast.
 James Gardner Robb, Belfast.
 John Roberts, Belfast.
 John Wilson, Belfast.

4. *For the Degree of LL.B.*

Thomas Henry, A.M., Belfast

5. *For the Diploma of Elementary Law.*

Andrew Commins, Cork.

David Ross, Belfast.

6. *For Certificate of having passed first Medical Examination.*

Charles Winston Duggan, A.M., Galway.

Christopher Joynt, Galway.

DISTRIBUTION OF HONORS, on Wednesday, the 11th of October, 1854, in ST. PATRICK'S HALL, Dublin Castle.

IN THE FACULTY OF MEDICINE.

An Exhibition of £20, Alexander McMath, M.D.
 1st Examination in Medicine—An Exhibition, value £10. Charles W. Duggan, A.M.

IN THE FACULTY OF LAW.

Honor—An Exhibition of £15, and a Gold Medal, Thomas Henry, A.M., LL.B.
Elementary Law.
 Honor—An Exhibition of £10 and a Gold Medal, David Ross, A.M.

IN THE FACULTY OF ARTS—A.M. HONORS.

Classics.

Honor—An Exhibition of £15, and a Gold Medal, Richard Wall, A.M.

English Philology and Criticism, Logic, Metaphysics, or Political Economy and Jurisprudence.

Honor—An Exhibition of £15 and a Gold Medal, David Ross, A.M.
 Extra Honor, (at recommendation of Examiners)—£10. Denis B. O'Flynn, A.M.

Mathematical and Physical Sciences.

Honor—An Exhibition of £15 and a Gold Medal, John O'Brien, A.M.

Experimental and Natural Sciences.

Honor—An Exhibition of £15 and a Gold Medal, Andrew Commins, A.M.
 Extra Honor, (at recommendation of Examiners)—£10. John Witherow, A.M.

A.B.—HONORS.

Ancient Classical Languages and Literature.

1st Honor—An Exhibition, value £15, and a Gold Medal, Robert John Mitchell, A.B.

English Language and Literature.

1st Honor—An Exhibition, value £15, and a Gold Medal, John Mahony, A.B.
 2nd Honor—An Exhibition, value £10, James Gardner Robb, A.B.

Modern Foreign Languages.

1st Honor—An Exhibition, value £15, and a Gold Medal, James McLurg Abernethy, A.B.
 2nd Honor—An Exhibition, value £10, John Mahony, A.B.

Mathematics.

1st Honor—An Exhibition, value £15, and a Gold Medal, John Duggan, A.B.
 2nd Honor—An Exhibition, value £10, Edward McGuire, A.B.

Natural Philosophy.

1st Honor—An Exhibition, value £15 and a Gold Medal, John Duggan, A.B.
 2nd Honor—An Exhibition, value £10, Patrick Ford, A.B.

Chemistry and Chemical Physics.

1st Honor—An Exhibition, value £15, and a Gold Medal, James Cumming, A.B.
 2nd Honor—An Exhibition, value £10, Edward McGuire, A.B.

Natural Science.

2nd Honor—An Exhibition, value £10, David Graham, Barkley, A.B.

Logics and Metaphysics.

1st Honor—An Exhibition, value £15, and a Gold Medal, Robert Johnson, A.B.
 2nd Honor—An Exhibition, value £10, John Wesley Johnston, A.B.

Jurisprudence and Political Economy.

1st Honor—An Exhibition, value £15, and a Gold Medal, Thomas Mortimer Bastedo, A.B.

2nd Honor—An Exhibition, value £10, Robert Johnson, A.B.

Celtic Languages.

Honor—An Exhibition, value £10, and a Gold Medal, Denis Florence O'Driscoll, A.B.

The Vice-Chancellor's Prize of £10 10s., for the best Poem "On the Progress of Science in the Nineteenth Century," was given to Andrew Connors, A.M.

III.—THE PUBLIC MEETING OF THE QUEEN'S UNIVERSITY, to confer Degrees and distribute Honors, was held in St. Patrick's Hall, Dublin Castle, at three o'clock, on 11th October, 1854.

The Right Hon. the LORD CHANCELLOR, as Vice-Chancellor of the University, presided, in the absence of the noble Chancellor, the Earl of Clarendon. On the right of his lordship sat the Right Hon. F. Blackburne, and on his left the Chief Justice of the Common Pleas. The other members of the Senate occupied benches in the immediate vicinity of the Vice-Chancellor, and wore the state robes of their office, as did also the Secretary, Dr. Ball.

The Examiners, Professors, and Students entered the Hall in procession, wearing their academics, and having taken the places assigned to them.

The LORD CHANCELLOR rose, and addressing the assembly, said—The Examinations in the Queen's University, which have just concluded, result in the admission, on the present occasion, of thirty Students to the Degree of Bachelor of Arts; seven to that of Master of Arts; three to the Degree of Doctor of Medicine; and one to the Degree of Bachelor of Laws. Two Students have been found entitled to the Diploma of Law; and two have passed the first examination in Medicine prescribed by our ordinances, preparatory to their examination in a future year for the Degree of Doctor in that faculty. These results are encouraging, as showing a still progressive number of candidates for our first and principal Degree—that of Bachelor of Arts—from the three Royal Colleges, of which this University is the head; while our Examiners continue to report most favourably of the general answering of the Students, and that of the mathematical class in particular has been mentioned by the able Examiner in that department as of peculiar excellence. The Senate is now assembled accordingly to perform its important functions of conferring on the successful candidates the degrees thus awarded; but I have still to regret that the exigencies of public duty in another part of the United Kingdom prevent us from having the advantage of the attendance of our Chancellor, the Earl of Clarendon, in whose absence it devolves on me, as Vice-Chancellor, to perform the office of delivering, on behalf of the Senate, to each Student, the testimonial of his successful examination. We have also to regret that the absence from Ireland of his Excellency the Lord Lieutenant, who, on the last occasion of this nature, dignified our assembly by his presence, and encouraged us by his address at the close of the day's proceedings, prevents our being alike honoured to-day; but I am sure I may say with confidence, on the part of each of those exalted noblemen, that they still regard, with undiminished interest and cordial good wishes, the progress of the Colleges and of the University.

In the competition for Honors at the recent Examinations, twenty-two Students have been successful, some in more than one of the classes, and the proceedings of the day will consist, in part, of the distribution of the prizes thus honourably attained. On the former occasions, on which it has been my privilege to discharge these duties as Vice-Chancellor, I thought it not inappropriate to the business of the meeting to make some observations on the purposes and objects of this institution, the nature of its arrangements in connexion with the functions it was appointed to fulfil, the special courses of study prescribed by its ordinances for those seeking its degrees and honors, and some of the more prominent parts of the practical system of education and discipline in the Colleges which are attached to it, and which with its form, I may say, one great establishment of public instruction—the Queen's University of Ireland. I thought it desirable to invite attention to these subjects, satisfied, as I was and am, that an examination of the courses of study pursued in these Colleges, and a consideration of the high position in their respective departments of the Professors to whose care these studies were intrusted, would be likely to elicit the approval and obtain for them the sanction of every intelligent and impartial person desirous of enlarging the sphere of useful and liberal studies, and solicitous for the advancement of literature and science. To the observations on the details of those courses of study, as pursued in the Colleges and made the subject of our Annual Examinations here, as far as it seemed to me necessary to allude to them, I have nothing to add on the present occasion; they remain both in the Colleges and in our University Examinations substantially the same. I may describe them as useful, intellectual, and liberal. By the pursuits of mathematical research the mind of the Student is trained and disciplined to that vigorous exactitude of thought which is the essential and only sure guide in the investigation of all scientific truth. Resting on and guided by this knowledge he advances to the study and contemplation of the great phenomena of the physical world, storing his mind as he proceeds with the wondrous results of the observations of ages, and the philosophic inductions of the great masters of modern science. Then progressing from the theories of the lecture-room to the examination of the practical pursuits of mankind, the scientific student lays a broad and safe foundation on which to rest the special studies

which the exigencies of a public profession may demand, he prepares himself for a life of utility to himself and to the world. To him whose inclination may prompt to, or from whom the necessary preparation for his future position may require a more sedulous attention to intellectual science—to the investigation of the subtle inquiries of metaphysics, and the refined analysis of the logicians—to the Student also who may look in a more public career to take part in the business of the forum, or perhaps of the senate, and whose mind should early be imbedded with the great principles of jurisprudence, the elements of historical knowledge, and the enlightening theories of political economy—to all these our course of study open ample means of instruction; while preceeding them all, and concurrent with them through our entire system of general education a wide range of ancient and modern literature enriches the youthful mind with the great treasures of learning and taste preserved in the classical languages of antiquity—informs him in the use and beauty of those languages, by the perusal of the choicest works of their poets and historians, and teaches him the origin, the development, and the comprehensive excellencies of his own. The literature of modern Europe is opened to his investigation and study in the most polished and most copious of its varied tongues; and thus through all, from the earliest poet of classical antiquity to the most recent of those who have adorned and are adorning their age with the beauties of poetic genius and literary taste, he acquires that precious store of cultivated learning, which, while it gives grace to pursuits the most utilitarian, and strength to the most intellectual, will expand before the man of leisure and retirement, if such should be the Student's happy destiny, the most unbounded field of mental and liberal enjoyment. In attestation of the successful pursuit of these several branches of our collegiate studies our Senate awards its honorary distinctions and prizes. It seemed to me, individually, that I might, as the Vice-Chancellor of the University, propose to add for this occasion one other to the list—not for any branch of those studies in which it is requisite that the student should be a proficient to entitle him to a degree, but in that lighter study, if study it may be called, which has in some older universities its special rewards, and to extend in which is the happy aspiration of many a youthful mind. I thought that the encouragement of poetical composition would well harmonise with that liberal culture of the mind and taste, the outlines of which I have imperfectly sketched; and in choosing a subject for this merely literary competition, I endeavoured to select one which could be associated with those severer studies from the burden of which the mind might well desire some lightening and relaxation. I proposed for it accordingly the subject, "The Advance of Science in the Nineteenth Century," and the Senate kindly acquiesced in the arrangement, and gave it their sanction. I am happy to add that the experiment has not been without its fruits. One of the gentlemen who has succeeded in obtaining his degree at the late Examination, and who has also been a successful competitor for honours in another department, has produced a composition which I feel no hesitation in considering as well worthy of the prize. It evinces a full acquaintance with the subject proposed, combined with much command of language and poetic vigour. I can do no more than allude to one other of the compositions sent in for the occasion, as exhibiting a varied knowledge of the subject, adorned by much feeling and grace of expression, and which only some inequalities precluded from more successfully competing. I know not who the author may be, but he will recognise the allusion I make to him when I say, he chose a motto full of encouraging truth to all who desire to have acquaintance with science—her declaration, that by those who seek her she will be found.

For this body, then, encouraging and forwarding all these studies—studies, I have said, which are useful, intellectual, and liberal—conferring its degrees and diplomas in the several branches or faculties, as they are styled in our charter and through Europe, of arts, medicine, and law—I claim with confidence that title of University which her gracious Majesty has bestowed upon it; a title based upon that royal licence and authority, but resting also upon the general and extensive range of science and literature through which, in our Colleges, we conduct the Student, and in attestation of his knowledge of which we confer upon him our honours and degrees.

There is another ground on which we rest this title. I enter not upon the unprofitable occupation of examining or comparing the various definitions of a University which have been proposed from time to time, and by different authorities. Whether some may not be too narrow, some too refined, some resting more on quibbles of words than on more solid grounds, I do not stop to inquire. There is at least one character which has with some writers entered into the definition, one which appears to me to be worth many others, one in this country of inestimable value, and one to which, emphatically, this body, through its associated Colleges, may well and justly lay claim—it is universal in its acceptance of Students of all classes and of all denominations. I speak not in praise or blame of other institutions. I do not ask here, in any literal sense of the word—if that is to be the test—a University of some privileged class, or special denomination only, can have possible existence, or whether to speak of such an institution does not import a contradiction in terms, a solecism in language—I but vindicate for the Queen's University at least this expanded character—open to all—inviolate all, from whatever country they may come, or to whatever faith they may belong—offending none—we strive to carry out that great principle of united education, in which, in my judgment, will be found the best preparation, as far as lies in human wisdom, for the discharge of all social duties, and for the worldly security and progress of that which all desire to see existing among us, a peaceful and united country. It is said that our course of studies is incomplete—in not universal. True it is that, as I

have observed on a former occasion, neither the Queen's Colleges nor this University have been founded for the training in theological studies of candidates for the ministry of any religious persuasion. Such special studies, therefore, are not within the scope of our ordinances; and it may well be understood, as indeed every reflecting mind must be convinced, that to create in this country any institution in which the ministers of all the several divisions of religious profession among us should be so trained in one and the same College, would be most difficult and inconvenient, if not simply impossible.

To leave, then, all such special education to separate established institutions of a denominational character, either in name or in practice, is a necessary alternative; and therefore I own I cannot comprehend the force of the objection that has been taken to the absence of defined courses of theological learning in our Colleges, valuable and important as we all must admit that learning to be. The objection takes another shape, in which it is more compassedly presented; it is, that no provision is made, as part of the ordinary studies or discipline of the place, for the religious teaching of our Students by competent Professors. I will not repeat the formula, as I may call it, in which the Queen's Colleges are thus reproached, nor will I institute any comparative examination of the condition of the Students of these Colleges, in respect to general religious education, with those of other like institutions professing to do much more in this regard.

But let us take our Colleges as they are, and see how far they deserve this rebuke. I put aside theological instruction as such—the proper study, the appropriate and the necessary one for the Divinity Student preparing for his admission to the sacred office—and what remains? Is there in any of the modes of faith a special religion for the student of the arts, of languages, of medicine, or of law, different from that which ought to be imbibed by every man born into the world, by the highest and the lowest, by those of every profession, and of every pursuit? The religious knowledge and condition to which each should strive to attain is, in this sense, the same for all—for all classes, for each sex, and for every age; and for the attainment of this knowledge it is difficult to say that the Colleges are deficient.

To the student of a College there wants but one provision of those common to the general body of the young—the supervision and direction of the paternal home. In the plan of the Queen's Colleges the best security has been taken that this want should be supplied, as on a former occasion I more fully observed, by the establishment of licensed boarding-houses, under the guardianship of Deans of Residences. I wish that time would admit of my reading at length the portions of the College Statutes which regulate those houses, and declare the duties of the Deans. I think the perusal of them would go far to dispel much of the delusion which has prevailed upon this subject, and it will be in the interest of the Queen's Colleges that their respective Presidents should have them more generally and extensively published. It suffices for me on the present occasion to state but one part of those regulations, which is, that the Dean of Residence shall have authority to visit the licensed boarding-houses in which Students of their respective creeds reside for the purpose of affording religious instruction to such Students; and shall also have power, with the concurrence of the bishop, moderator, or other ecclesiastical authority of his denomination, to make regulations for the due observance of the religious duties of such Students, and for securing their regular attendance at Divine Worship.

But, independent of the securities afforded by this part of our institutions, and although in some respects difficulties have occurred in carrying out the arrangements—which I hope yet to see overcome—it is not to be forgotten that the Colleges are not isolated structures—places separate and apart from all social associations, in remote rural districts or insulated regions, where for every thing a special provision should be made; they are, on the contrary, in immediate proximity to, and in connexion with, large and crowded towns, places adorned with noble structures erected for public worship, where all the offices of religion are supplied by educated clergymen of various denominations; they are, as it were, surrounded by professors of religion who, though not officially acting or incorporated with the special body of the Colleges, are yet ever at hand, ready to instruct the students, as they are all others within the scope of their parochial ministrations, in all the duties of religion and all the lessons of faith. To their Students, then, the Colleges, and the Statutes I have read, emphatically declare: fail not to go to those preceptors; we teach you, indeed, many parts of the great mass of learning and knowledge; there is one, however, for which we have not any endowed special class of instructors; but near you, and around you, and at your hand, within your chambers, at your altars, within the walls and precincts of your temples and places of worship you can receive, and consult, and attend upon, and be taught this learning by ministers and pastors of your faith. You are for us within this College of secular learning; but for yourselves, for society, for your entire education in all knowledge, you are also in the larger College of the social circle of this city; there are your religious professors ready to teach and to instruct you; they may not be of us, but they work with us in your teaching—they will give to you that learning, that devotional spirit which they are appointed to cherish; we are not of them, but we work with them; we give you the culture of the intellect, the discipline of the mental faculties, of which all admit the value, and which all, of all religions, acknowledge the advantage of your being taught for the better understanding and appreciation of religious truth. Thus, I may say to these Students, your College, as far as this University recognises it, is that place in which you have matriculated, where you are taught in the great circle of secular knowledge.—Really, for the entire cultivation of your minds and hearts, your College has a wider range—it goes beyond the rooms of your lectures and the halls of your examinations, and is

associated and incorporated, as it were, in effect, with the cathedrals, the churches, the chapels, and the temples of religious worship which are around it.

Before proceeding to confer on those who have attained the degree and honors of the Queen's University, I would address a word to some who perhaps are not here to-day. In our past Examinations a few were deemed wanting by the Examiners in that amount of proficiency which, in the due discharge of their bounden duty, they deemed necessary as entitling the Student to the degree for which he was examined. These young gentlemen have, consequently, for the present, lost the privilege of being so admitted. I would hope, however, that this disappointment will be only temporary, and will but have the effect of prompting them to increased diligence in the interval that must elapse before our next Examination, when I trust they will have better success; and I have the more confidence in thus adverting to the case of the candidates now rejected, and feel justly warranted in holding out to them this language of encouragement, when I can inform them, that at our Examinations of 1853, some of the candidates were in like manner unfortunate, who have so profited by the interval that has since elapsed as to have been among the most successful of those who have passed the recent Examinations.

The Lord Chancellor having resumed his seat, the candidates for degrees were called in the appointed order, and introduced to the Vice-Chancellor in succession, by the respective Presidents of their Colleges, when his Lordship conferred the degrees and honors which had been awarded by the Senate.

This having terminated the business for which the University had assembled, the Vice-Chancellor declared the meeting dissolved, and the company separated.

IV.—ORDINANCE regarding the SEVERAL COURSES OF STUDY, to be pursued by CANDIDATES for the DEGREE OF A.B., from the QUEEN'S UNIVERSITY IN IRELAND,
30th June, 1850, amended January, 1855.

FACULTY OF ARTS.

The Undergraduate Course in the Queen's Colleges for the Degree of A.B. from the Queen's University shall occupy not less than three Sessions.

Students shall be admitted to examination for this Degree who shall have attended the College Lectures for at least two full terms in each Session, and passed the prescribed College Examinations, and shall be recommended for promotion to the Degree by the President of the College in which their studies have terminated.

Candidates for the Degree of A.B. shall pursue in some one or other of the Queen's Colleges in Ireland the following Courses of Study:—

FIRST.		
The Greek and Latin Languages,		Three Terms.
The English Language,		One Term.
The Modern Languages,		Three Terms.
Mathematics,		Three Terms.
SECOND.		
Logic,		One Term.
Chemistry,		Three Terms.
Principles of Zoology and Botany,		Three Terms.
The Higher Mathematics, or	}	Three Terms.
The Greek and Latin Languages,		
THIRD.		
Natural Philosophy,		Three Terms.
History and English Literature,		Two Terms.
Physical Geography,		One Term.
Metaphysics,		Two Terms.
or		
Jurisprudence and Political Economy,		Each One Term.

Students must attend, in each Session, Lectures on at least two of the foregoing subjects, and in the order above set down, until the whole course shall be completed. Students who prefer to do so may attend Lectures on three or four of the subjects, but not more, in the same Session.

By Order,

ROBERT BALL, LL.D., Secretary.

The Queen's University, 8th January, 1855.

ST. GERMAN.

I, EDWARD GRANVILLE, EARL OF ST. GERMAN, Lord Lieutenant General and General Governor of Ireland, do hereby approve of the foregoing Ordinance.

By his Excellency's Command,

THOMAS LARCOM.

Dublin Castle, 13th January, 1855.

V.—ORDINANCE regarding the SEVERAL COURSES of STUDY, to be pursued by CANDIDATES for the DIPLOMA in ENGINEERING from the QUEEN'S UNIVERSITY in IRELAND, 31st October, 1851, amended January, 1855.

Students of Civil Engineering shall pass a Matriculation examination, and shall persevere, during at least two years, in one of the Queen's Colleges, the following Courses of study:—

FIRST COURSE.		Three Terms.
Mathematics, ...		Do.
Chemistry, ...		Do.
Mineralogy, Geology, and Physical Geography, . .		Do.
Drawing, ...		Do.
Descriptive Geometry, Surveying, and Mapping,		Do.
SECOND COURSE.		Three Terms.
Mathematics, ...		Do.
Natural Philosophy, ...		Do.
Motive Powers, Construction, and Theory of Machines,		Do.
Drawing, ...		Do.
Civil Engineering, including the Principles of Architecture and Engineering Drawing, ...		Do.

Any Student who shall have completed the above Courses of Study in any of the Queen's Colleges in Ireland, and shall also have been engaged during at least two years, of which not more than one shall be contemporaneous with his College courses, in acquiring a practical knowledge of Engineering in all its branches, and of Buildings used for public and domestic purposes, under the direction of an Engineer recognised by the College Council, shall be admitted to Examination for the Diploma of Civil Engineering in the Faculty of Arts.

19th October, 1853.

Any person who shall have obtained the Degree of Bachelor of Arts in the Queen's University, may proceed in his Course of Study to obtain the Diploma in Engineering, without repeating any of the Courses he may have already attended; he shall be allowed to enter at once upon the Courses of the second year of Engineering Study, shall be enrolled, and rank, as a second year Student of Engineering, and shall be entitled to proceed for his Diploma as such, provided he shall, in the subsequent period of his Engineering Studies, have attended the full courses of instruction in Drawing, Mapping, Surveying, and all other subjects, Collegiate and Practical, now required by the Ordinances, but not previously attended or included in his A.B. Course.

I. Note.—Instructions in Mapping and Surveying required in the Courses for the Diploma in Engineering are to be considered as including regular Practical Exercises and Observations in the Field. With the use of Instruments, contained throughout the Section.

II. The Drawing required by the above Certificate is understood to include Free-hand Drawing, as well as special Mechanical Drawing.

By Order,

ROBERT BALL, M.D., *Secretary*.

The Queen's University, 8th January, 1855.

ST. GERMAN.

I, EDWARD GRANVILLE EARL OF ST. GERMAN, Lord Lieutenant General and General Governor of Ireland, do hereby approve of the foregoing Ordinance.

By His Excellency's Command,

THOMAS LARCOM.

Dublin Castle, 13th January, 1855.

VI.—ORDINANCE regulating the CONDITIONS, FORMS, and SUBJECTS of the DEGREE, DIPLOMA, and HONOR EXAMINATIONS, for the Year 1855.

GENERAL REGULATIONS.

The General Examination will commence on Tuesday, the 18th September, 1855, and will be carried on in the order prescribed in the annexed Tables.

This Examination will be principally by printed papers, with such viva voce interrogation as the Examiner may deem necessary. The Honor Examination is to be solely by printed papers.

Candidates will be required to answer for Degrees and Diplomas in all the subjects prescribed by the Ordinances for their respective courses, save where an option is given herein.

The Honor Examination will be similarly conducted (except where specially provided for), the questions being of a higher character.

The following Fees to the University are to be paid by the respective Candidates to the Secretary before the Examination; they are not returnable in case of rejection, but are not required again for re-examination:—

DEGREES.		DIPLOMAS.	
L.L.D., . . .	£3	Engineering, . . .	£3
M.D., . . .	5	Elementary Law, . . .	2
A.M., . . .	3	Agriculture, . . .	2
L.L.B., . . .	1		
A.B., . . .	1		

The Names of Candidates obtaining Degrees or Diplomas will be published in alphabetical order; those of Candidates obtaining Honors, in the order of merit.

The Examiners having passed Candidates for Degrees or Diplomas, shall select from them those whom they consider deserving of being examined for Honors, and shall return their names to the Secretary, with the result of the General Examination. None others shall be entitled to compete for Honors, save for that in the Celtic Languages, for which any Candidate who has passed for a Degree may present himself as a competitor, the subject not requiring a preliminary examination.*

Students passed for the Degree of A.B. may be examined for Honors in more than one department.

The Examiners are to recommend for Honors solely on the ground of absolute merit. If, consequently, Honors shall be withheld in any one branch of study, the Senate may, on the recommendation of the Examiners, apply the amount to increase those in any other department.

Candidates must furnish to the Secretary, through their respective Registrars, on or before the 1st of September, the several Certificates required by the Ordinances; for this purpose they will be supplied by the Registrars with proper Forms and Schedules.

All Degrees and Honors are conferred at the public meeting of the University.

FACULTY OF ARTS.

EXAMINATION for the DEGREE of BACHELOR of ARTS, and for HONORS in that FACULTY.

Every Candidate will be required to answer for the Degree of A.B. in the subjects included in the Group A, of the following Table, and also to answer in the subjects of one of the three groups of subjects marked B, C, D, respectively; the Candidate being allowed to select.

1. GROUP A.—REQUIRED FROM ALL CANDIDATES.

- a } The Latin Language and Literature.
- a } The Greek Language and Literature.
- b } A Modern Foreign Language.
- c } Mathematics.

2. c SPECIAL GROUPS, IN ONE OF WHICH THE CANDIDATES MUST ANSWER.

GROUP B.

English Philology and Criticism.

Logic.

Metaphysics, or (in place of Metaphysics, at the election of the Candidate) Political Economy and Jurisprudence.

GROUP C.

Chemistry.

d Natural Philosophy.

GROUP D.

Zoology.

Botany.

Physical Geography.

a.—In the Latin and Greek Languages every Candidate will be allowed to select for his examination in each language, some two works of the following classical authors:—

- Virgil—First Six Books *Æneid*.
- Horace—Satires, Epistles, and Art of Poetry.
- Sallust.
- Terence—*Adelphi* and *Phormio*.
- Cicero—Orations against *Catalina*.
- Tacitus—*Agriicola* and *de Moribus Germanorum*.
- Xenophon—*Anabasis*, Book 2, 3.
- Homer—*Iliad*, four first Books.
- Herodotus—Book I.
- Æschylus—*Prometheus Vincetus*.
- Euripides—*Medea*.
- Lucian—Walker's Selections.

A.—In Modern Languages the Candidate will be allowed to select for his examination the French, the German, or the Italian language, and will be required to translate from some two modern authors, in the language selected, and to translate an exercise from English into the same language.

* NOTE.—In 1856, and future years, Honors will also be proposed in the Sanskrit and Arabic Languages, upon the same conditions as required for the Celtic Languages.

c.—In Mathematics, the Candidates will be examined in—

The 1st, 2nd, 3rd, 4th, and 5th Books of Euclid, and in the Definitions of the 5th Book.

Arithmetic, including Vulgar and Decimal Fractions.

Algebra, including the usual rules, to the end of Quadratic Equations, with the Nature and Use of Logarithms.

Plane Trigonometry

d.—In the Examination in Natural Philosophy, the Candidates will be expected to be able to give such mathematical proofs, in reference to any question proposed, as may be supplied by the foregoing mathematical course.

e.—In the Examinations upon the subjects of the groups selected by the Candidates, the object of the Examiner will be to ascertain the extent and accuracy of the general knowledge of each subject possessed by the Candidate.

The special Courses and regulations of the Honor branches are as follows:—

1. ANCIENT CLASSICAL LANGUAGES AND LITERATURE.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

The Candidates for Classical Honors will be examined in the following course:—

Horace—Odes, Satires, and Epistles.

Virgil—Æneid, Books 1 to 8.

Cicero—Tusculan Disputations.

De Oratore.

Academicæ Verrinum.

Juvenal—Satires, 1, 3, 8, 13, 14.

Tacitus—Annals, Book 1.

Histories, Book 1.

Livy—Books 4 and 22.

Terence—Adelphi and Phormio.

Plautus—Aulularia and Cistina.

Thucydides, Book 1.

Herodotus, Book 1.

Æschylus—Prometheus Vinculus.

Sophocles—Edipus Coloneus.

Homer—Iliad, 99 to 34.

Odyssey, 12 to 18.

Euripides—Medea, Alceste, and Orestes.

Greek and Latin Composition in Prose and Verse.

2. ENGLISH LANGUAGE AND LITERATURE.

Honor: an Exhibition, value £10, and a Gold Medal.

The Candidates will be examined in the History, Philology, and Grammar of the English language, at various periods, and in the principles of Literary and Grammatical Criticism, as exemplified in application to various authors in English Literature.

3. MODERN FOREIGN LANGUAGES.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

Candidates will be examined in the History, Philology, and Grammar of the following Modern Languages, viz.:—The French or German, or the French and German, or the French, German, and Italian, as the Candidate may think proper. He will be required also to translate from English into the language or languages selected by him for examination.

4. MATHEMATICS.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

The Candidates will be examined in the following course:—

Euclid Books—1, 2, 3, 4, 5, 6.

Algebra, including its Application to Questions of Probabilities and Annuities.

The Theory and Solution of the Higher Equations.

Plane Trigonometry, including De Moivre's Theorem and its Applications, and the Construction and use of Trigonometrical Tables.

Conic Sections.

Differential and Integral Calculus.

Differential Equations.

Co-ordinate Geometry, of Two and of Three Dimensions.

The First three Sections of the First Book of the Principia.

Spherical Trigonometry and its Application to Astronomy.

Theory of Logarithms—Construction and Use of Logarithmic Tables.

5. NATURAL PHILOSOPHY.

Honor: an Exhibition, value £15, and a Gold Medal.

Subjects of Examination—

Mechanics;
Optics, Geometrical and Physical;
Astronomy, Plane and Physical;

mathematically treated; and for another Honor an Exhibition, £10 and a Gold Medal:—
subject of Examination—

Experimental Physics.

6. CHEMISTRY AND CHEMICAL PHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be—

Heat.
Electricity.
Crystallography.
Laws of Combination and Constitution.
Inorganic and Organic Chemistry.

7. NATURAL SCIENCES.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be—

The Principles of Animal Structure and Classification.
The Principles of Vegetable Structure and Classification.
The Elements of Geology and Physical Geography.
The Laws of Geographical Distribution of Plants and Animals.

8. LOGICS AND METAPHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in Logics and Metaphysics given in the Queen's Colleges.

9. JURISPRUDENCE AND POLITICAL ECONOMY.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in Jurisprudence and in Political Economy given in the Queen's Colleges.

10. CELTIC LANGUAGES.

Honor: an Exhibition, value £10, and a Gold Medal.

The Examination will include the Critical History and Philology of the Hiberno-Celtic language, with translations of passages from authors of different periods, and re-translations from English.

REGULATIONS for the EXAMINATION of CANDIDATES for the DEGREE of A.M.

A Candidate may proceed to obtain his Master's Degree by examination in any one of the four following Courses of Study, viz. :—

1.—*Classics*, which shall be considered as including—

The Greek and Latin Classic Authors; Prose Composition in Greek, Latin, and English; a modern Foreign Language.

2.—*English Philology and Criticism*.

Logic.

Metaphysics, or (in place of Metaphysics, at the Election of the Candidate) Political Economy and Jurisprudence.

3.—*Mathematical and Physical Science*, which shall be considered as including the following subjects :—

Algebra, including the theory of Equations.

Analytical Geometry.

Trigonometry, Plane and Spherical.

The Differential and Integral Calculus.

Differential Equations.

Theory of Probabilities.

Statics and Dynamics.

Hydrostatics.

Hydraulics and Pneumatics.

Heat.

Electricity and Magnetism.

Optics.

Plane Astronomy.

Physical Astronomy.

4.—*Experimental and Natural Sciences, which shall be considered as including the following subjects:—*

Experimental Physics.
 Laws of Chemical constitution and combination.
 General properties and preparation of Organic and Inorganic bodies.
 Structure, Functions, and Classification of Animals.
 Structure, Functions, and Classification of Vegetables.
 Zoological and Botanical Geography.
 Elements of Geology and Paleontology.
 Elements of Physical Geography.
 Elements of Crystallography and Mineralogy.

An Exhibition of £15, with a Gold Medal will be conferred by the Senate upon any Candidate who shall obtain the first place in any one of the above four Courses of Study, if he be recommended as possessed of sufficient absolute merit.

Regulations for the Examination of Candidates for the Diploma of Civil Engineer or of Agriculturist.

1. ENGINEERING DIPLOMA.

1. The Mathematical Examination of Engineering Candidates will include—

Arithmetic, including Vulgar and Decimal Fractions.
 Algebra, to the end of Quadratic Equations.
 Euclid, 1st, 2nd, 3rd, 4th, 5th, and 6th Books.
 Mensuration.
 Plane Trigonometry.
 Elements of Spherical Trigonometry.
 Construction and use of Logarithmic and Trigonometrical Tables.
 Conic Sections.
 Descriptive Geometry.

2. The Examination in Natural Philosophy, Chemistry, Mineralogy, and Geology, will be conducted with special reference to Engineering objects. In Natural Philosophy, the Candidate will be required to supply in his answers all such mathematical proofs as may be supplied by the Mathematical Course above specified.

Every Engineering Candidate will be required to produce one of his own drawings of each of the following kinds, viz:—Bridges and Roads, accompanied by Plans and Sections; also Topographical Maps, with the Field-books and observations from which the whole were constructed. Candidates are recommended to produce Architectural Drawings and Drawings of Machinery. These drawings must be certified by the Teacher of Drawing in the College as having been *bona fide* executed by the Candidate.

Candidates will be furnished with data for a project of Constructive Engineering or Architecture, and will be required to furnish detailed propositions for carrying same into effect, with estimates and specifications.

3. Every Engineering Candidate must provide a certificate of having been engaged in obtaining a practical knowledge of Engineering under the direction of a practising Engineer, for the term required by the Ordinance under which he proceeds for his Diploma.

2. AGRICULTURAL DIPLOMA.

The Examination will include—

Arithmetick, with Vulgar and Decimal Fractions.
 Mensuration, practically treated.
 Principles of Natural Philosophy (without Mathematical proof).

And all the other subjects of the Course for Agricultural Diploma specified in the Ordinances, considered specially in their applications to Agriculture and Land Improvement.

The Candidate is recommended to produce any Surveys or Maps, with the Field-books from which they were constructed, which he may have prepared during his term of instruction in Surveying.

The Candidate will be furnished with data for a project of Farm Improvement, and required to furnish a detailed proposition for carrying the same into effect, with estimates and specifications.

The Candidate will be required to exhibit and explain a plan previously arranged by him, for keeping Farm Accounts.

Honor Examination in the Department of Engineering and Agriculture.

Engineering—Honor: an Exhibition, value £10, and a Gold Medal.

The Examination in Mathematics will include the following additional Course:—

The Higher Algebra.
 Differential and Integral Calculus, Differential Equations.
 Co-ordinate Geometry of two and of three dimensions.
 Spherical Trigonometry, and its applications to Astronomy and Geodesy.
 The first three Sections of the First Book of the Principia.

In the examination in Natural Philosophy and in the theory and construction of Machines the subjects will be mathematically treated.

Agriculture—Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF LAW.

HONOR EXAMINATION IN ELEMENTARY LAW.

Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF MEDICINE.

Regulations for the Examination of Candidates for Degrees and Honors.

Candidates will be required to answer in all the subjects of the Course prescribed for the Degree of M.D., by the Ordinance of 30th June, 1850; or for the first or second Examination under the Ordinance of the 15th of March, 1852. These latter will be concurrent with the Examinations under the original Ordinance, and will be conducted in the same way.

HONOR EXAMINATION IN THE FACULTY OF MEDICINE.

1st Honor: an Exhibition, value £20, and a Gold Medal.	}	For Candidates electing to proceed under the Ordinance of June, 1850.
2nd Honor: an Exhibition, value £20.		
Honor: an Exhibition, value £10, and a Gold Medal.	}	For Candidates in the second examination under the Ordinance of 15th March, 1852.
Honor: an Exhibition, value £10, - - -		
	}	For Candidates in the first examination under the said Ordinance.

By Order,

ROBERT BALL, LL.D., *Secretary.**The Queen's University, 16th March, 1853.*

CARLISLE.

I, GEORGE WILLIAM FREDERICK, EARL OF CARLISLE, Lord Lieutenant-General and General Governor of Ireland, do hereby approve of the foregoing Ordinance.

By His Excellency's Command,

THOS. A. LARCOM.

DEGREE OF THE DOCTOR AND DOCTORAL EXAMINATION IN THE FOLLOWING DEGREE IN THE QUINCY UNIVERSITY IN ITALY, 1888.

		ARTS, & SCIENCES.	AGRICULTURE.	ENGINEERING.	SCIENCE.
FARMACY, (First Examination).	1st Year.	Latin.	Theory of Agriculture, Farm Practice, and Diseases.	Medicine.	
	2nd Year.	Greek.	Practice of Agriculture, Farm Experiments.	Surgery.	Chemistry and Botany.
FARMACY, (Second Examination).	3rd Year.	Modern Languages.	History and Extension of Farm Animals.	Modern Languages.	Engineering, and Architecture of Farms.
	4th Year.	English Literature.	Surveying and Mapping.	Machine Making, Planning, and Medical Experiments.	Surveying and Mapping.
TECHNICAL, (First Examination).	1st Year.	Mathematics.	Architecture.	Architecture.	Architecture.
	2nd Year.	Latin, Geography.	—	Planning and Construction of Architecture.	Architecture.
FARMACY, (Third Examination).	3rd Year.	Chemistry.	Chemistry.	Chemistry.	Chemistry.
	4th Year.	Physical Philosophy.	Elements of Physics.	Physical Philosophy.	Physical Philosophy, Physical Medicine.
FARMACY, (Fourth Examination).	1st Year.	Zoology and Botany.	Philosophy of Zoology and Botany.	History Zoology (from Greek).	
	2nd Year.	Physical Geography.	Mineralogy and Geology, Physical Geography.	Mineralogy and Geology of Rocks and Minerals.	Mineralogy, Zoology, and Physical Geography.
FARMACY, (Fifth Examination).	3rd Year.	Architecture and Political Economy.			
	4th Year.	Students who pass Examination. Students may read in any or all of the above.			
FARMACY, (Sixth Examination).	5th Year.	Students to read in order by their degree, and to recommend the Examination in Science.			
	6th Year.	Students to read in order by their degree of Examination in Science.			

[illegible]

VII.—AT A MEETING of the SENATE, on the 20th June, 1855, the following Report was adopted:—

The Senate of the Queen's University, having given much attention to the proposed bills for medical reform submitted for its opinion by Sir George Grey, thinks it can best express that opinion by stating, in the first place, its own views of the means by which the main objects contemplated may be attained; while it would, at the same time, desire to record its earnest hope that the standard of intellectual education in all branches of the medical profession may be placed on the high elevation the interests of the profession and of the public demand. This standard it has been the earnest wish of the Senate of this University to attain and establish in connexion with the Queen's Colleges in Ireland, of which it is the head; and to this end its ordinances for the literary and medical education of the candidates for its medical degree, and which have received the sanction of successive Lords Lieutenant of Ireland, have been studiously framed. The Senate desires to refer to a copy of these ordinances, which is transmitted herewith, and to the course of examination prescribed, as stated therein, for testing the qualifications of the candidates, in the confident expectation that they will be found to comprise a well arranged system of education, sufficient, if steadily and successfully pursued, to qualify the medical graduates of this University for the practice of all the great branches of the profession; and in illustration of the character of the examination to which the graduates have submitted, and through which they have successfully passed, the Senate further refers to the papers of such examinations, published from time to time with the annual reports of its proceedings, and to the names and scientific acquirements of the several examiners who have been engaged therein. The Senate will always be willing (under the sanction of the Lord Lieutenant of Ireland, as required by its charter, for any change of its ordinances) to add to its courses of medical education any further requirements which a well-selected council of the medical profession, established by Parliament, might from time to time think necessary for the better development of medical science in general, and the more extensive direction of practical study; but, believing that these, and all the other public objects sought to be attained by the proposed bills may fully and adequately be secured, as regards its students and graduates, through its own organization, the Senate, on its own behalf, and on behalf of the Queen's Colleges in Ireland, most earnestly deprecates any change which would superadd to the attainment of their medical degree the necessity of the student passing the examination of a merely professional college before he could be considered legally qualified to practice; and still more strongly does it object to the arrangement, suggested in one of the bills, in regard to the education of a surgeon, under which collegiate and university education would be wholly unnecessary, and the degrees of this or any other university of no value whatever.

1stly. Considering the laxity with which uneducated and unfit persons have been allowed by some licensing bodies to enter the medical profession, it appears to the Senate very desirable that a supreme council should be appointed, with power to establish one uniform system of education and examination, which system should be considered, however, as providing what might be described as the minimum standard of qualification, leaving it to the several universities and colleges to superadd such additional courses of education and examination as they may deem it right to require for the attainment of their degree.

2ndly. The Senate is of opinion that it is most desirable that a due system of registration should be established; and,

3rdly. That one uniform Pharmacopœia should be published on proper authority.

These three objects, which the Senate admits to be essentially important, may, it conceives, be best attained in the following manner:—

1stly. Considering the differing circumstances of each country, it would seem to be essential that three councils, representing the local universities and colleges, be formed; from each of these councils one representative should be sent to form the Supreme Council. The three councils to be each presided over by a President, to be elected by Government; and the Supreme Council by the Secretary of State for the Home Department. The Irish Council, on this plan, would be formed of five persons, viz.:—one from the Dublin University, one from the Queen's University, one from the Royal College of Physicians, and one from the Royal College of Surgeons, with a President named by Government. By this simple plan the difficulties and objections attendant on either of the schemes proposed in the bills for the formation of councils would appear to be obviated.

2ndly. With respect to registration, it appears to the Senate that the simplest and best form it could assume would be that of the Registry already published by Churchill, in London. It contains an alphabetical list of names, and another of places; and all that would seem necessary to make this duly authentic would be, that proofs of the first edition should be submitted for correction to the officers of the various universities and colleges, and that in subsequent years slips should be sent of alterations and additions for the same purpose.

3rdly. In the present advanced state of chemical knowledge it is apprehended that, through the aid of proper persons appointed by the local councils, no difficulty would be found in forming one uniform Pharmacopœia.

The Senate having thus stated its opinions as to these essential wants, and the modes it would propose for supplying them, submits the following observations on the draft bills which have been laid before them:—

In its comments on the first bill* the Senate confines itself mainly to the bearing of that bill upon Ireland, as the circumstances of the several branches of the profession are, in many respects, different from those in England.

Clause II. With respect to this clause, the Senate has to observe, that the practice of Pharmacy is already provided for in Ireland by the Apothecaries' Act of 1791. This Act has worked well, and carried out its objects, especially in providing well-educated apothecaries for the public service; it, therefore, does not appear necessary to legislate for this department; neither does it seem important or desirable to alter the present state of the law, or to confound, as proposed in the draft bill, Pharmacy with Medicine and Surgery.

Clause III. The Senate thinks that a Supreme Council is desirable, if formed in the way, and for the objects as above stated, and that its decision should be final; and,

Clause VII. That it should have power to fix fees for diplomas, as well as arrange examinations; and that every student should be at liberty to go to whatever university or college he may desire to select for his diploma or degree; such diploma or degree to be a qualification in both Medicine and Surgery, examinations being arranged accordingly.

Clause VIII. The Senate considers this clause altogether objectionable, as it proposes to reduce all existing qualifications to a common level, and thus qualify inefficiently educated persons for any office, and confound together Pharmacy, Medicine, and Surgery.

Clause X. would be rendered unnecessary by making the qualification and education (as proposed in observation on Clause VII.) at once sufficient for both Medicine and Surgery.

Clauses XI, XII. The Senate approves of the admission of a member of any of the councils to be present at Medical Examinations; and of the Council's having the power to refuse registration, when satisfied that any university or college is not acting in compliance with the requirements laid down by the Supreme Council.

Clause XX. See the remarks already made as to form of register to be adopted, &c.

Clause XXII. The observations on Clause II. apply to this clause.

Clauses XXVII., XXX., XXXI. The Senate doubts the value of penal clauses, and thinks that the rule declaring unqualified persons to be inadmissible to public employment, and incapacitated from recovering charges for medical attendance, may suffice to restrain such persons from attempting to practice.

With respect to the several other clauses, some are dependent on the adoption or non-adoption of the suggestions contained in the foregoing observations; others may require to have their working details considered; the remainder obviously call for no observation.

With respect to the second bill,† the Senate is doubtful if a council formed in the way proposed by it could be an efficient and working body. The Senate cannot see how a system of election could be contrived which would insure the return of the most competent persons for the council, having a due regard to the several bodies to be represented, and to the true interests of the profession as large, and of the public. The arrangements proposed by the bill for the constitution of the council appear objectionable in giving one member on said council to represent the single body of the Faculty of Physicians and Surgeons at Glasgow, while only one is to be given to the Universities of Edinburgh, Glasgow, Aberdeen, and St. Andrew's, collectively, and one only to the University of Dublin and the Queen's University collectively.

The Senate, therefore, much prefers the mode of forming the council which it has already stated.

The Senate has already expressed its opinion as to the best form of registration, &c.

Clause XXV. The Senate considers that persons should not be required to attain the age of twenty-six years before becoming physicians; and it totally objects to admit that Graduates in Medicine of the Queen's University should be subject to further examination in a College of Physicians.

Clause XXVIII. The Senate, as before stated, anxiously desires to see one uniform system of education, of a high intellectual standard, adopted.

Clause XXX. The Senate considers that the power of conferring colleges to give a full degree may be advisable in certain cases, but at the same time remarks, that in this University power (if it does not already exist) should be given to confer surgical as well as medical qualifications on its graduates, whose education and examination are designed to fully qualify them as surgeons.

XXXII. The publication of one uniform Pharmacopœia, as already stated, is very desirable.

By Order,

ROBERT BAILL, M.D.,

Secretary.

* That of the University of Edinburgh.

† That proposed by Mr. Headlam, M.P.

VIII.—RETURNS of STUDENTS attending the following MEDICAL SCHOOLS and HOSPITALS have been received during the year ended June, 1855.

MEDICAL SCHOOLS OF—	HOSPITALS.	LYING-IN HOSPITALS.
Trinity College.	Jervis-street.	Rotundo.
Queen's College, Belfast.	City of Dublin.	Coombe.
Queen's College, Cork.	House of Industry	Cork.
Queen's College, Galway.	S. and N. Infirmary, Cork.	Belfast.
Royal College of Surgeons.	Moath.	
Carmichael School.	Belfast.	
Original, Peter-street.	Mercer's.	
Dublin, Peter-street.	Galway Infirmary and Fever Hospital.	
	Stevens'.	

Students who purport to present themselves for examination for Medical Degrees in the Queen's University, should ascertain that their names are returned for any Medical Lectures they may attend, lest in consequence of such returns not having been supplied, their qualifications should be deemed insufficient when they so present themselves; and lecturers who are willing to make the required returns, and who have not received the necessary forms through the Registrars of the respective institutions, should cause application to be made for them.

IX.—AN ESTIMATE of the sum that will probably be required to defray the Expenses of the QUEEN'S UNIVERSITY in IRELAND, for the year ending 31st March, 1855.

Two Thousand Three Hundred and Sixty-six Pounds.

SALARIES OF EXAMINERS.	£	s.	d.
1. In Greek, ...	100	0	0
2. In Latin, ...	100	0	0
3. In Modern Languages, ...	40	0	0
4. In Celtic Languages, ...	20	0	0
5. In Mathematics, ...	100	0	0
6. In Logic and Metaphysics, ...	50	0	0
7. In Chemistry, ...	100	0	0
8. In Zoology and Botany, ...	75	0	0
9. In Natural Philosophy, ...	100	0	0
10. In English Literature, ...	40	0	0
11. In Mineralogy, Geology, and Physical Geography, ...	50	0	0
12. In Jurisprudence and Political Economy, ...	40	0	0
13. In Theory and Practice of Medicine, ...	100	0	0
14. In Theory and Practice of Surgery, ...	100	0	0
15. In Materia Medica, Pharmacy, and Medical Jurisprudence, ...	100	0	0
16. In Anatomy, Physiology, and Comparative Anatomy, ...	100	0	0
17. In Midwifery, and Diseases of Women and Children, ...	75	0	0
18. In Engineering and Surveying, ...	50	0	0
19. In Agriculture and Farm Management, ...	50	0	0
20. In Law, ...	40	0	0

1,430 0 0

OFFICE CHARGES.

Secretary's Salary, ...	850	0	0
Incidentals, Office Expenses, Postage, Messengers, Advancements, &c., ...	180	0	0
Exhibitions, Prizes, Medals, ...	500	0	0

2,460 0 0

Probable amount of Fees (being the sum received, 1854), ... 94 0 0

TOTAL SUM required, ... £2,386 0 0

X.—CASH ACCOUNT of the QUEEN'S UNIVERSITY, for the year ending 20th June, 1855.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Balance of Account, June, 1854, ...	30	6	0	By Salaries of Examiners and Secretary, ...	1,705	0	0
„ Parliamentary Grant, 1854, ...	2,259	0	0	„ Incidental Expenses, ...	149	8	7
„ Fees on Degrees and Diplomas, ...	94	0	0	„ Medals and Exhibitions, ...	448	12	0
				„ Balance in Bank, ...	80	5	5
Total Charge, ...	£2,383	6	0	Total Discharge, ...	£2,383	6	0

XI.—EXAMINERS, elected 16th July, 1855.

- Greek*.—William Nesbitt, Professor, Q.C., Galway.
Latin.—Rev. C. P. Reichel, M.D., Professor, Q.C., Belfast.
English Literature.—Rev. Charles F. Darley, A.M., Professor, Q.C., Cork.
Logic and Metaphysics.—Rev. James McCosh, LL.B., Professor, Q.C., Belfast.
Mathematics.—Rev. Robert Carmichael, A.M., F.R.C.S.
Natural Philosophy.—George Johnstone Stoney, A.M., Professor, Q.C., Galway.
Chemistry.—John Blyth, M.D., Professor, Q.C., Cork.
Anatomy and Physiology.—Joseph H. Corbett, M.D., L.R.C.S.I., Professor, Q.C., Cork.
Zoology and Botany.—Alex. G. Melville, M.D., M.R.S.A., Professor, Q.C., Galway.
Modern Languages.—Mathias J. Frings, Ph.D., Professor, Q.C., Belfast.
Mineralogy, Geology, and Physical Geography.—Joseph Becco Jones, A.M., F.R.S.,
 Director Geological Survey.
Jurisprudence and Political Economy.—T. E. Cliffe Leslie, Professor, Q.C., Belfast.
Law.—Michael Barry, M.R.S.A., Professor, Q.C., Cork.
Civil Engineering and Surveying.—John England, Professor, Q.C., Cork.
Agriculture.—John F. Hodges, Professor, Q.C., Belfast.
Celtic Languages.—Cornelius Mahony, Esq.
Medicine.—Samuel Gordon, M.D., &c.
Surgery.—Christopher Fleming, M.D., M.R.C.S.I., M.R.I.A., &c.
Materia Medica, Pharmacy, and Medical Jurisprudence.—William Barker, M.D., &c.
Midwifery and Diseases of Women and Children.—Richard Doherty, M.D., Professor,
 Q.C., Galway.

XII.—RETURN of the number of DEGREES and DIPLOMAS conferred by the Senate in each year, on Students of the Queen's Colleges of Belfast, Cork, and Galway, since the erection of the University.

DATE OF PUBLIC MEETING.	DEGREES CONFERRED.				DIPLOMAS.		
	M.D.	A.M.	L.B.	L.L.B.	Agriculture.	Secretary	Law.
5th March, 1852, .	7	0	0	0	4		0
14th October, 1852, .	7	0	22	0	3		3
16th October, 1853, .	9	11	25	1	1		1
11th October, 1854, .	3	7	30	1	0		2
	26	18	77	2	8		6

Three Gentlemen have passed the first Examination in Medicine.

XIII.—MEETINGS of the SENATE for the period of this Report in the office of the University, Dublin Castle.

11th September, 1854.

- Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.
 His Grace the Archbishop of Dublin.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, LL.B. Robert Ball, LL.B., *Secretary*.

25th September, 1854.

- Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Dominic J. Corrigan, M.A.
 The Right Honourable Chief Justice Monahan.
 Robert Ball, LL.B., *Secretary*.

4th October, 1854.

- Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.
 The Vice-President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Robert Ball, LL.B., *Secretary*.

11th October 1854—Public Meeting in St. Patrick's Hall.

- Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.
 The Right Honourable Francis Blackburne, LL.B.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, LL.B.
 Dominic J. Corrigan, M.A.
 James Gibson, A.M.
 Robert Andrews, LL.B.
 The Right Honourable Chief Justice Monahan.
 Robert Ball, LL.B., *Secretary*.

20th December, 1854.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Lieut.-Col. Larcom, M.D.
 Richard Griffith, M.D.
 James Gibson, A.M.
 Robert Andrews, M.D.

Robert Ball, M.D., *Secretary.*

Stated Meeting—8th January, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, M.D.
 Dominic J. Corrigan, M.D.
 James Gibson, A.M.
 Robert Andrews, M.D.
 The Right Honourable Chief Justice Monahan.

Robert Ball, M.D., *Secretary.*

7th March, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, M.D.
 Dominic J. Corrigan, M.D.
 Lieut.-Col. Larcom, M.D.

Robert Ball, M.D., *Secretary.*

12th May, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 Dominic J. Corrigan, M.D.
 Lieut.-Col. Larcom, M.D.
 James Gibson, A.M., Barrister-at-Law.
 Robert Andrews, M.D.

Robert Ball, M.D., *Secretary.*

Stated Meeting—20th June, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Dominic J. Corrigan, M.D.

Robert Ball, M.D., *Secretary.*

16th July, 1854.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 Sir Philip Curran, Bart.
 The Right Honourable Francis Blackburne, M.D.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, M.D.
 Dominic J. Corrigan, M.D.
 James Gibson, A.M., Barrister-at-Law.
 Robert Andrews, M.D.

Robert Ball, M.D., *Secretary.*